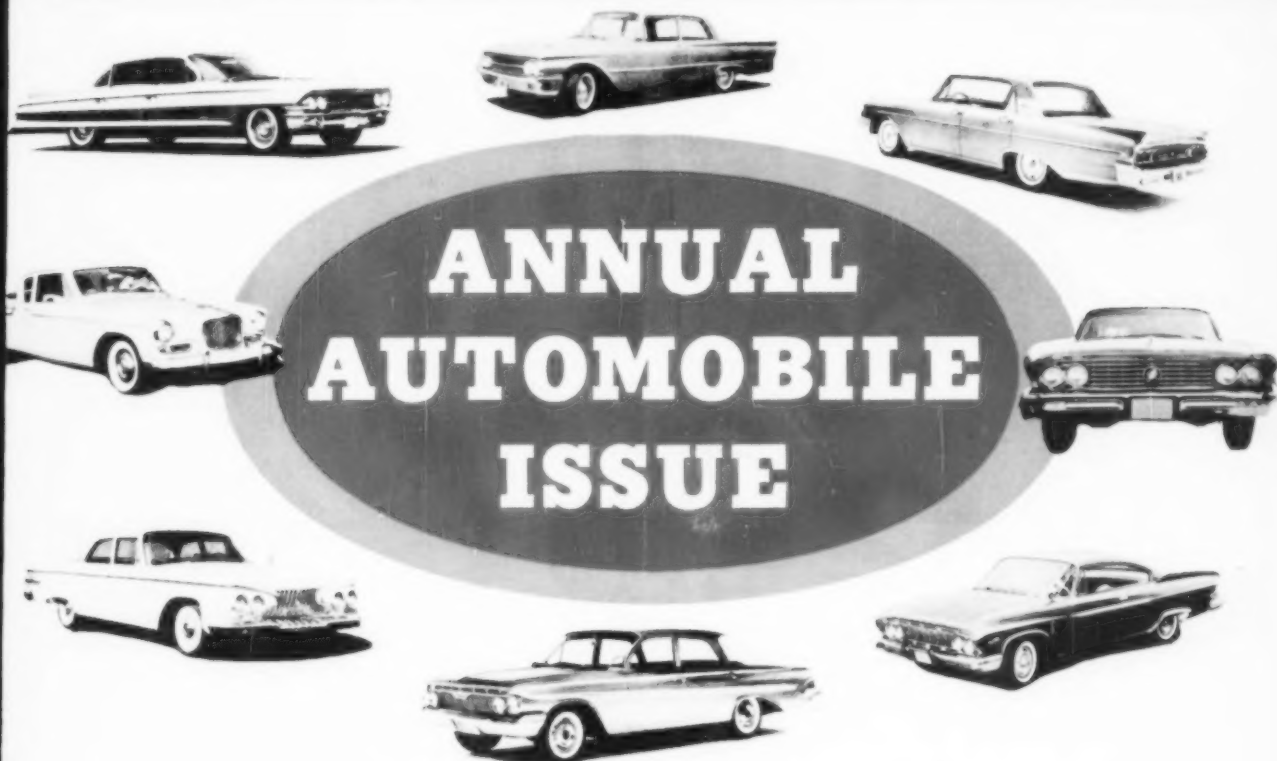


JUNE 1961 • 40 CENTS

Consumer BULLETIN

The original consumer testing magazine



**Selections of preferred
FULL-SIZE CARS IN FIVE PRICE GROUPS**

- * **Plastic dinnerware**
Some is pretty poor
- * **Auto air conditioners**
- * **35 mm. cameras, and**
something new in small cameras
- * **Food labels**
wide open to criticism
- * **New zoom binocular**
- * **Phonograph records**
Current recordings—2 pages

How would you like to eat
some "Oxygen Interceptors"?

A study of some food labels

*Suggestions are included about what's to be done if you don't hanker to
eat the ingredients listed—for example, in frozen chicken and candy*

FOOD AND DRUG manufacturers have a positive genius for developing not one but many refined ways of putting lists of ingredients on labels of food packages in such fashion as not to be seen and read by consumers, or at least not to alarm them, or raise embarrassing questions in their minds. National regulatory authorities long have tolerated very loose and unsatisfactory labeling practices, and state administrations, with a few honorable exceptions, have done little to enforce proper regulations for size, conspicuousness, and clearness of label statements of ingredients.

Recently we bought at the supermarket a package containing "one half chicken, fully cooked." The picture on the package of frozen chicken (10 ounces net weight) indicated a drumstick, thigh, wing, and breast. The purchaser would assume that these were all of substantial size. The price of the chicken was 69 cents; upon examination it turned out to be breast, thigh, drumstick, and wing of an exceptionally small broiler or fryer. The label included these words about other ingredients: "fried in shortening [of some unstated kind], water, flour, potato flour, salt, pepper. Oxygen interceptors added to improve stability." The last phrase, when translated into ordinary consumer language, means that chemical substances have been added to delay deterioration or spoilage of the fat in the chicken and in the shortening used. Sometimes such substances are called oxygen interceptors, or antioxidants; more usual terms are preservatives, or freshness preservers. Preservatives is the word that should be used, for consumers know what that means. In



This casual sort of label printing is all too common with certain kinds of products. State food inspectors could stop it quickly, if they cared to.

some instances the preservatives are named, as they should be, but not identified as preservatives (as of course they should be), or the wording may be so complex or poorly organized that the consumer will not know which of the ingredients are preservatives or staleness preventers, and which have other functions.

Clarity is easily obtainable in the wording of food labels, but there are signs that the food control experts of the federal government are prepared to tolerate an even greater degree of vagueness and ambiguity than is now practiced in labeling. (See the article in our May CONSUMER BULLETIN, "An open letter to the Food and Drug Administration.")

The state of regulations and their enforcement in respect to labeling of foods is exceedingly unsatisfactory. Bad practices in labeling as reported in the article, "Those labels on packaged foods" (CONSUMER BULLETIN, February 1958) are still very much in evidence. In fact, there are indications that the ingenuity of package designers in making lists of ingredients hard to find and hard to read when they are found (and hard to understand—because of vagueness—even after they have been read) is finding increasing expression, with less interference by federal and state officials.

**Candy labels and ingredients
a special problem**

Candy manufacturers seem to go in for more, and more unfamiliar, ingredients than do manufacturers of other food products. The maker of a certain brand of peanut candy does give you the names of his freshness preservers, of which there

(Continued on page 25)

The Consumers' Observation Post

IF YOU ARE THE POSSESSOR OF ONE OR MORE CREDIT CARDS that entitle you to charge meals, gasoline and oil, and a number of other items, take good care of them. The holder of a credit card in most cases is liable for payment of charged purchases even if the card was stolen from him, until the company which issued the credit card receives a notice from the lawful owner that it has been lost or stolen, reports *Automotive News*. The magazine reports the sad case of a man whose gasoline credit card was stolen and in a month's period, 55 unauthorized purchases of many items sold at service stations totaling over \$1000 were made through the use of the card. When the bill came in, the owner refused to pay it and promptly notified the company to cancel the credit card. In the court case which followed, it was held that since the contract clearly stated that products or services were to be rendered to anyone presenting the card, the card owner was bound by those conditions and was obligated to pay the bill.

* * *

FOR THAT SPECIAL OCCASION which does not occur very frequently for most men, is it wiser to buy or rent a tuxedo? According to the *A.M.A. News*, if you wear a tuxedo fewer than three times a year, you will be wise to rent one. It is reported that the entire outfit—tux, shirt, jewelry, cummerbund, tie, and suspenders—can be rented for as little as \$10, while a minimum purchase price is around \$55.

* * *

THE CAUSE OF ULCERATIVE COLITIS is somewhat obscure, and medical treatment has been on a trial and error basis. One group of patients studied by Dr. S. C. Truelove, M.R.C.P., at the Radcliff Infirmary, Oxford, England, showed marked improvement when milk, and certain milk products, such as cheese, were eliminated from the diet. In the case of several patients, milk was reintroduced into the diet as an experiment. On every occasion when this was done, it was followed by an attack of the disease. Although the total number of patients studied, 13 in all out of 200, was small, Dr. Truelove suggested that one possible implication of his study is that ulcerative colitis is not a single disease, but a family of different diseases in one of which allergy to a particular foodstuff such as milk may be a contributing cause.

* * *

AIR CONDITIONING is not always pleasant, even in a hot climate. Many lightly clad women object to the abrupt change in temperature when they are dressed in light summer garments and move from the warm out-of-doors into a frigid restaurant, supermarket, store, or theater. The woman who is aware of a sensitivity to air conditioning will carry a sweater over her arm, but others who are lightly clad may blame air conditioning for ailments from the common cold to arthritis, according to one trade journal which is concerned about the problem. The journal suggests that thermal shock resulting from air-conditioned public establishments that have set their thermostat controls too low may be a great stumbling block to public acceptance of air conditioning in the home.

* * *

MAKING CHICKEN SOUP AT HOME is almost unknown in these days of canned soups. Those, however, who want to try it should perhaps follow a lead given in a feature article in *The New York Times*. Instead of using the whole chicken or the breast and thigh pieces, try a package of wings, backs, and necks, which are much cheaper. The flavor of the broth in which backs and necks were simmered for one hour was much better than that in which the whole chicken had been cooked, which had practically no taste at all. Meat from the bones after broth was poured off was enough for a sandwich or a salad for one person.

IF THE FAMILY WASH IS NOT AS WHITE as desired, perhaps not enough detergent is being used. According to a study at the University of Illinois by Professor Ruth L. Galbraith, few women use enough detergent in their family wash to remove soil effectively or to keep it from being re-deposited during the washing process. As a matter of fact, the study showed that most women were trying to bleach their clothes clean rather than use enough detergent to wash them clean. It was found also that women who were washing in hard water were not using any more detergent than those washing in soft water. Hard water must be softened; if it is not, a greater amount of soap or detergent must be used for good washing results. Of the 600 women who were studied, 59 percent used non-automatic washers, 30 percent used automatic washers, 2 percent had combination washer-dryers, and 40 percent had dryers.

* * *

THE DEEP TAN RESULTING FROM A SUMMER VACATION may be fashionable, but it isn't always desirable. Furthermore, some people should not try to get it at all. One medical journal points out that people with pale pink-white skins that do not tan readily or at all should avoid extensive exposure to the sun, for in such cases the incidence of skin cancer is very high. The journal warns that the hands, the face, and the parts of the body most regularly exposed to sunlight are sites of 90 percent of skin cancer.

* * *

SOMETHING NEW IN A GAUZE DRESSING called Surgicel is now available to physicians, according to a business newspaper. The dressing, a loosely-knit gauze of oxidized regenerated cellulose, forms an artificial clot in wounds and surgical incisions within two or three minutes after application. When the gauze comes in contact with blood, a chemical reaction produces a gelatin-like film that acts as an artificial clot and eventually is absorbed by the body tissues. It has also been used in extraction of teeth to help stop profuse bleeding. The manufacturers, Johnson & Johnson, report that it may be some time before Surgicel is available for ordinary first-aid kits. At present it is available on prescription by doctors, and is rather expensive.

* * *

THE BUG PROBLEM during spring and summer is often a deterrent for those who like to go fishing and camping. For years, oil of citronella has been faithfully applied to the skin with varying degrees of success to keep off mosquitos, flies, and gnats. There are, however, many new insect repellents that give a reasonable period of protection from insect bites. According to Philip Granett of the New Jersey Agricultural Experiment Station at Rutgers, the person who wants an effective product in this field should look for one that contains one or more of the following active ingredients, which should be listed on the label: dimethyl carbate, dimethyl phthalate, ethyl hexanediol (6-12), and Indalone. Repellents are marketed in the form of liquids, semi-solid gels or sticks, as creams, or as sprays. Mr. Granett reports that it doesn't matter in what form the repellent is marketed so long as it contains a high concentration of the active ingredient. (But in using a spray, take pains to avoid breathing the vapor or fumes.)

* * *

SUNGLASSES WITH SUPER-WIDE FRAMES are a traffic hazard. The National Safety Council warns that women who wear sunglasses with extra-wide frames are a menace to safe driving. Such glasses are virtual blinders for drivers. The Council warns that men and women drivers should be extra cautious in passing cars driven by women wearing sunglasses with frames that are unusually wide.

(The continuation of this section is on page 37)

Consumer Bulletin

THE ORIGINAL CONSUMER INFORMATION MAGAZINE

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Listings usually are arranged in alphabetical order by brand name (not in order of merit) under each quality or performance rating. A numeral 1, 2, or 3 at the end of a listing indicates relative price, 1 being low, 3 high. Where the 1, 2, 3 price ratings are given, brands in the 1, or least expensive group, are listed alphabetically, followed by brands in price group 2, also in alphabetical order, etc. A quality judgment is wholly independent of price.

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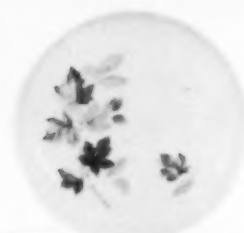
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PLASTIC DINNERWARE

THERE is a great variety of patterns in plastic dinnerware; they are floral and geometric, modernistic and traditional, on square, round, and oval dishes (and on some shapes that defy easy description). Homemakers of practically all tastes will surely have little trouble in finding styles to please everyone.

The principal change in plastic dishes since Consumers' Research reported on this subject about three and a half years ago is the great increase in prevalence of decorated melamine ware. Melamine dishes are sold mostly in sets, and there are very few individual items available from "open stock," though stores will sometimes on request order individual pieces from the manufacturer. One exception appears to be that some styles of *Boontonware* are widely sold from open stock. Another exception is that most patterns sold by the big mail-order firms, Sears and Montgomery Ward, may be ordered either in sets or as individual pieces.

If you plan to buy a few dishes or a "starter set" and to get additional matching items later, you will do well to find out, if you can, whether more pieces of the pattern will be available when wanted. Don't accept the assurances of a salesperson; inquire directly of the buyer in a department store or the owner or manager of a small shop.

Know what you're buying

The commonest family set is a 45-piece service for eight. There are usually eight each of dinner plates (about 10 inches in diameter), salad-dessert plates (about 7 inches), soup-cereal bowls, cups, and saucers (about 6 inches), plus a platter, vegetable serving dish, creamer, and sugar bowl (which, with cover, counts as two pieces).

In some sets, especially at lower prices, 6-inch bread-and-butter plates or small bowls (called "sauce dishes") may be supplied instead of salad

plates. The exact dishes supplied in any particular set, and their sizes, should be clearly in mind before you decide to buy. It is best, of course, to examine and handle the dishes yourself and to compare directly the various sets under consideration in a store where they are on display. Failing this, be sure to read with careful attention to detail any printed description on which you rely in ordering by mail, else you may find the set disappointing in some unexpected way.

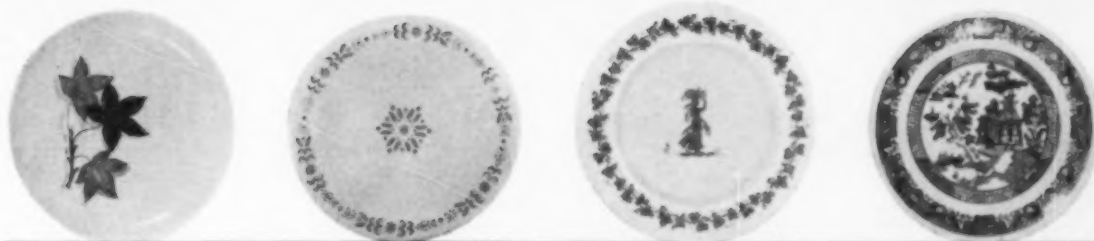
Which pieces are decorated?

In a typical "decorated set," the decorative design appears on some of the pieces only, usually the dinner plates, salad plates, saucers, and the serving platter. Other pieces are plain, of one solid color which may contrast with or be the same as the background color of the decorated pieces. Of the 29 patterns included in the present report, only four were without decorations on any piece, and only one set, *Harmony House "Mignon,"* had every piece decorated, including cups and bowls. The number of decorated pieces is another point to watch for in examining a set or reading a printed description before you buy.

Materials

Advertised descriptions of all the dishes tested used the word melamine or the trade mark *Melmac*, and all of the brands included, except one, appeared to be made with melamine-formaldehyde resin, which is generally known simply as melamine.

The one exception was *Spaulding Ware*. In the display associated with the "special-offer" distribution of this ware at a supermarket, the pieces were described as made of "MELAMINE and Copolymer," and were said to be "break resistant, stain resistant, and chip resistant." Of six pieces offered for sale, only the rather small (9-inch) dinner plate was made of melamine. The cup, saucer, salad plate, bowl, and tumbler were not



melamine, a fact evidenced by their melting and becoming deformed at the temperature of boiling water (see Figure 1). Melamine is a thermosetting plastic and does not soften when it is heated.

The makers of *Spaulding Ware* were recently ordered by the Federal Trade Commission to disclose clearly in connection with their sets the particular pieces and number of pieces made of melamine and those made of other materials.

Breakage

Melamine dinnerware is by no means unbreakable, but it is much tougher and much less likely to break than china or earthenware. Our tests included the application of sharp blows or impacts to the centers and edges of the plastic dinner plates. A record was made of the level of impact at which chipping of the edge of a plate or cracking of its center portion occurred. The impact required was a measure of the tendency of the ware to resist chipping or cracking in use.

Dishes of most of the 29 patterns tested cracked under one of the blows applied to their centers, but samples of the following five withstood the highest impact used in our test: *Brookpark* "Canyon Flower" and "Fantasy," *Holiday*, *Mallory Adams House*, and *Oneida Premier*.

Most of the dishes withstood chipping tests; dishes of only five patterns were affected by blows up to the strongest applied in our tests. *Texas-Ware* "Bleu Heirloom" became chipped at the lowest impact level of all, presumably because of its relatively thin rim. Also weak in the chipping test was *Mallory Classic*, which became chipped at the relatively sharp lower edge beneath its fluted rim.

Comparative examination of the dishes that easily became cracked or chipped and those that better withstood the test impacts in the laboratory showed that the sturdiness of melamine ware depends, as might be expected, mainly upon its thickness and the design of the rims. Thinness, and especially thin tapered edges, are features of design that may be attractive to some users, and a purchaser may well decide to do without maximum strength for the sake of pleasing appearance. The choice as between strong and not-so-strong dishes is, of course, a matter for personal decision; in our listings, we have considered susceptibility to breakage or chipping as a reason for looking

upon the particular ware as less desirable. For the benefit of those users who may prefer certain characteristics above impact resistance, we have mentioned lack of impact strength in every case where it was a factor in judgment.

Staining and scratching; "glazed" finish

All melamine ware is subject in time to staining and scratching. The stains which appear in cups from coffee can be removed by bleaching with any of several preparations sold for this purpose. Plastic ware should never be scoured with even the mildest of abrasives, as the surface, if roughened by scouring, will show staining even faster in the future.

Surface scratches will appear on plastic plates and other pieces from the cumulative effects of cutlery and from the rubbing of the dishes against each other in washing and in stacking for storage. Care in use and handling will, of course, reduce the amount of such scratching.

A new glazed finish for melamine dishes, called by the resin producers *Melaglaze* or *Cymel 1080*, has been used experimentally by some molders, especially for cups. Coffee stains are said to be more easily removed from the glazed surface, but some reports about this are contradictory. The glazed surface is softer than non-glazed, so the treatment is probably not desirable for plates or platters on which knives will be used. For the present, at least, it is the opinion of Consumers' Research that the proved advantages of the glaze are not sufficient to justify any added cost.

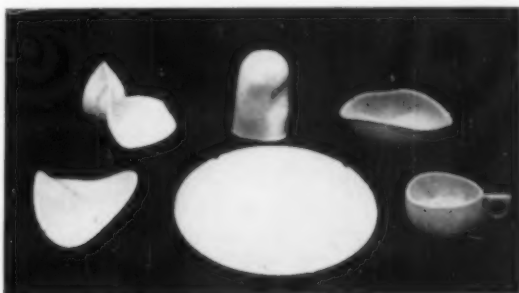


Figure 1—A group of Spaulding Ware dishes after boiling in dilute acid for 15 minutes. This test was done to determine resistance to boiling water and to estimate the cumulative effects of food acids. The deformed or twisted shapes of all the Spaulding Ware pieces except the dinner plate show that these pieces were not melamine. At three places on the rim of the dinner plate can be seen the results of the chipping test.



Figure 2—Cup designs differ greatly, as shown by these examples: left to right, Karefree, Oneida Premier, and Carleton. Before you buy, look at the cups to be sure their shape is pleasing to your taste. Keep in mind that high cups with small bases are likely to be tipped over rather easily. Consider the cup handle, too; see Figure 3.

Some users have at times complained that melamine ware seems harder to wash than china or earthenware. One possible reason for this belief is that, because of surface characteristics, water does not run off melamine as smoothly and evenly as it does from china, earthenware, or glass. Other reasons are the coffee stains and scratches that of course don't come off with washing. Consumers' Research, however, has found that melamine ware is no harder to wash than other dishes. When carefully washed and well rinsed, it is to be regarded as satisfactorily "clean" from the sanitary viewpoint and quite suitable for serving food.

Sample pieces were cut from dinner plates, one of each pattern, and placed in boiling dilute acid for 15 minutes. Then all these pieces, together with another group of samples which had not been subjected to the weak acid, were dipped in a dye solution. Those samples whose surfaces were significantly affected by the acid showed more staining by the dye than others. It was judged that the results of this test gave a useful indication of the degree to which the various dishes might be expected to resist staining after repeated exposure to the weak acids that are present in many foods.

Guarantees

Many sets of melamine ware are guaranteed for a period of time—frequently two years, but often a shorter or longer period. The guarantee usually provides for replacement of any dish that breaks in normal use. One will probably have to send the dish back to its manufacturer for adjustment (not to the store where bought), and there sometimes is a charge per piece for service or "postage and handling." It is wise to READ THE GUARANTEE before buying. No guarantee, of course, can provide that the dishes will never break, but the better warranties will provide for replacement over a fairly long period, and there will be no charges or costs except perhaps what it costs to send in the broken piece.

Cups and cup handles

Greater variation in shape was noted in the cups

than in any other pieces among the 29 sets examined and tested. Capacities (to the rims) of cups examined varied from about seven to nine fluid ounces. Some cups were fairly tall with small bases and flaring tops; these were judged relatively unstable. There were also low, squat cups and every variety in between. (See Figure 2.)

The shopper should make a point of examining and handling a cup, preferably one filled with water. Look for stable shape, fluid capacity appropriate to your family's habits, and a comfortable handle with large enough finger hole. (See Figure 3.) Even though some women prefer for themselves cup handles with fairly small holes, most persons would wish the pieces of a family dinnerware set to be suitable, too, for the usually larger fingers of men. It is well to watch for and avoid any sharp edges or points either on the inside or outside of a cup handle.

In the following listings, detailed information about a set is given only to the extent that its characteristics were judged to differ significantly from the typical or average set. If no mention is made of chipping or cracking, the dinner plate withstood without failure the maximum impacts applied in our tests. Absence of comment about any characteristic may be taken to imply that the dinnerware was judged generally satisfactory in that respect. Within the A, B, B-, and C groupings, listings are alphabetical by brand.

A. Recommended

Boontonware "Westfield" (Boonton Molding Co., Boonton, N.J.) \$39.95 for 45-piece set. Saucers were of solid white, not decorated as they are in most sets. Rather small (6½ in.) salad-dessert plate. A fairly high impact was required to cause cracking of a dinner plate.

Brookpark "Fantasy" (Brookpark, Inc., Cleveland 20) \$39.95 for 45-piece set.

Durawear "Indian Song" (California Molded Products, Inc., Santa Paula, Calif.) \$34.95 for 45-piece set. A fairly high impact required to cause cracking of a dinner plate.

Harmony House "Mignon" (Sears-Roebuck's Cat. No. 21—3564L) \$45.94, plus shipping, for 45-piece set with all pieces decorated. Cup judged somewhat unstable. A fairly high impact caused cracking of a dinner plate. A set of these dishes would occupy more cabinet space than average because of unusually great projection of separation rings beneath dinner plates and other pieces (see Figure 4), and might therefore be unsuitable for someone without ample cupboard space. The height of a stack of dinner plates would be about twice that of an equal number of most other brands.

Holiday "Bayberry" (Kenro Corp., Fredonia, Wis.) \$39.95 for 46-piece set. Hole in cup handle judged slightly small for some users.

Oneida Premier "Autumn Memory" (Oneida, Ltd.,

Oneida, N.Y.) \$49.95 for 45-piece set. Judged by several observers to be the most desirable of the sets tested.

Texas-Ware "Autumn Leaves" (Plastics Mfg. Co., Dallas 33) \$19.95 for 45-piece set. Includes solid-color bread-and-butter plates (6-in. diameter) instead of decorated salad plates (about 7 in.) usually found in 45-piece sets. A fairly high impact caused cracking of a dinner plate.

B. Intermediate

Boontonware Somerset "Wheat" (Boonton Molding Co.) \$29.95 for 45-piece set. Has bread-and-butter plates (instead of salad plates). Saucers solid color. Sauce dishes instead of soup-cereal bowls. A moderate impact caused cracking of a dinner plate.

Brookpark "Canyon Flower" (Brookpark, Inc.) \$49.95 for 45-piece set of dishes of square shape. Finger hole of cup handle judged to have uncomfortably sharp inner edges.

Gaiety (International Molded Plastics, Inc., Cleveland 9) \$1.69 for dinner plate, bread-and-butter plate, cup, and saucer, of mottled finish without decorations. Edges of hole in cup handle judged sharp. A moderate impact caused cracking of a dinner plate.

Gencraft "Georgia Pine" (General Plastics Div. of Wallace Silversmiths, West Toronto, Canada) \$29.95 for 39-piece set. Hole in cup handle judged too small. A moderate impact caused cracking of a dinner plate.

Lenoxware Deluxe "Seville" (Lenox Plastics, Inc., St. Louis 16) \$39.95 for 45-piece set. Cup handle hole judged small and to have sharp edges. A moderate impact caused cracking of a dinner plate. Dulling effect of the boiling-dilute-acid test on surface finish was relatively great.



Figure 3—There is no such thing as a typical handle of a plastic cup. Even two styles from the same mold may be entirely different, as (left and right, upper row) Lenoxware Deluxe and Lenoxware Regency. Left and right on the lower row are Wallace "Falling Leaves" and Texas-Ware "Bleu Heirloom."

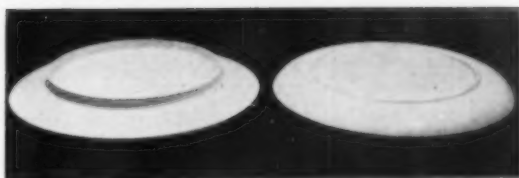


Figure 4—The Harmony House dinner plate, left, had an exceptionally high raised ring on its bottom, as compared to a plate of about average design in this respect, such as the Duraware, seen at the right. The relatively deep rings were present on most other pieces of the Harmony House set also.

Mallory Adams House "Coronet" (Mallo-Ware Corp., Chicago 41) \$39.95 for 45-piece set. Cup handle had a fairly sharp upper outside projection which some users found objectionable, though others did not. Except for the cup handle, this set would warrant an *A-Recommended* rating.

Oneida "Lovely Day" (Oneida, Ltd.) \$39.95 for 45-piece set. Saucers solid color. A fairly high impact caused cracking of a dinner plate, and a fairly high impact caused chipping of its edge but only once in three trials. Inside edges of hole in cup handle judged sharp.

Oneida "Windfall" (Oneida, Ltd.) \$29.95 for 45-piece set with small bowls instead of salad plates. A moderate impact caused cracking of a dinner plate, and a fairly high impact was required to cause chipping of its edge (which occurred once in three trials).

Prolon Beverly "Autumn Glory" (Prolon Plastics, Florence, Mass.) \$29.95 for 45-piece set, including undecorated saucers. Has bread-and-butter plates (instead of salad plates). A moderate impact caused cracking of a dinner plate. Inside edges of cup handle hole sharp.

Roymac "Easy Livin'" (Royalon, Inc., Chicago; Sears-Roebuck's Cat. No. 21—3594C) \$15.97, plus shipping, for 45-piece set of mixed solid colors, without decoration, with bread-and-butter plates (instead of salad plates). A moderate impact caused cracking of the relatively small ($9\frac{3}{8}$ in.) dinner plate.

Stetson Contour "Copenhagen" (Stetson Chemicals, Inc., Lincoln, Ill.) \$39.95 for 45-piece set. Saucers were of solid white. A fairly high impact caused cracking of a dinner plate. Cup handles judged to have sharp inner and outer edges and relatively small holes. Effect of the boiling-dilute-acid test on surface finish was relatively great.

Westinghouse Darien "Cornflower" (Westinghouse Electric Corp., Bridgeport 2, Conn.) \$29.95 for 45-piece set. A moderate impact caused cracking of a dinner plate. Holes in cup handles judged too small, and their inside edges were sharp.

Westinghouse Newport "Parisian Springtime" (Westinghouse Electric Corp.) \$24.95 for 45-piece set. A fairly high impact caused cracking of a dinner plate. Sharp inner edge on cup handles, and outer edge roughly finished.

B—

The following brands and styles were judged less desirable than those listed above.

Axtec "Jamboree Pastel" (Montgomery Ward's Cat.

No. 86—8413M) \$16.50, plus shipping, for 45-piece set of mixed solid color pieces. Surface finish of the dishes was poor. A fairly low impact caused cracking of a dinner plate. Holes in cup handles somewhat small.

Carleton "Nordic" (Montgomery Ward's Cat. No. 86—8452M) \$38.50, plus shipping, for 45-piece set of oval-shaped dishes. Cup of a design judged to be relatively unstable. A fairly low impact caused cracking of a dinner plate. Effect of the boiling-dilute-acid test on surface finish was relatively great.

Karefree "Blue Willow" (Metro Molding Corp., Cleveland 28) \$12.88 (at a department store "sale"; said to have been marked down from \$19.99) for 45-piece set with bread-and-butter plates (instead of salad plates). A fairly low impact caused cracking of a dinner plate.

Lenoxware Regency "Golden Rhythm" (Lenox Plastics, Inc.) \$49.95 for 45-piece set. A fairly low impact caused cracking of a dinner plate. There was a blemish on the surface of one piece. Hole in cup handle relatively large, smoothly finished, and well rounded.

Mallory Classic "English Vintage" (Mallo-Ware Corp.) \$39.95 for 45-piece set. All pieces had flutes; fluted rims of dinner and salad plates reduced considerably the usable surface. A fairly high impact caused cracking of a dinner plate, and a moderate impact caused chipping of its edge in each of three trials. Sharp projection on outer edge of cup handle (similar to *Mallory Adams House*). Effect of the boiling-dilute-acid test on surface finish was relatively great.

Sun Valley "Seafoam" (Stetson Chemicals, Inc.) \$29.95 for 45-piece set. A moderate impact caused cracking of a dinner plate. Edge of hole in cup handle sharp and outer edge roughly finished.

Texas-Ware "Blen Heirloom" (Plastics Mfg. Co.) \$39.95 for 45-piece set, all pieces decorated except cups. A fairly high impact caused cracking of a dinner plate, and its edge chipped three times in three trials under the lowest impact which caused chipping of any plate. The manufacturer's literature would give the impression to many readers that this ware was imported from Holland. Actually, it was made in Dallas, Tex.; only the design was obtained from abroad.

Wallace "Falling Leaves" (Wallace Silversmiths [Canada] Ltd., Cookshire, Quebec) \$29.95 for 39-piece set. Dinner plate cracked under fairly low impact. Holes in cup handles judged too small. Effect of the boiling-dilute-acid test on surface finish was relatively great.

C. Not Recommended

Spaulding Ware (Spaulding Industries, Inc., Chicago) 29c per piece at supermarket "sale"; value said to be \$4 for 6 pieces. Only the small (9-in.) dinner plate of this set was made of melamine (see text). A fairly low impact caused cracking of a dinner plate, and a moderate impact caused chipping of its edges three times in three trials. All pieces except the dinner plate became deformed from heat in the boiling-dilute-acid test, and the effect of this test on surface finish of the dinner plate was relatively great. (See Figure 1.)

The rotary lawn mower, enemy of consumers' safety

SERIOUS and sometimes fatal accidents with rotary power mowers have been so numerous in recent years that the lawn mower industry has been forced, in order to avoid the restraints of federal or state legislation, to take some steps to reduce the hazards to the consumer in use of its products. Figures for the number of accidents which occurred during the 1960 mowing season are not available, but one expert predicted such accidents would total 80,000. In Georgia, 794 injuries were reported in two years, mostly from gasoline-powered rotary mowers. In a single city of 240,000 population the number of patients coming to four hospitals with mower injuries for emergency treatment totals 22 to 25 a week during the mowing season.

Unfortunately, like buzz saws, rotary lawn mowers cannot be made 100 percent safe. Many things, however, can be done to make them a great deal safer. Committees of a trade association of the industry, the Lawn Mower Institute, Inc., in conjunction with the American Standards Association, have worked out a Standard Safety Specification for power lawn mowers, which is a

step in the right direction. The major requirements of this specification, which was adopted in June 1960, are as follows:

1. Discharge chute openings in the blade enclosure expressed in terms of vertical angle of exposure, horizontal angle of exposure, and total exposure shall conform to certain stated limits.
2. The horizontal distance from the end of the discharge chute to the tip of the blade shall not be less than 3 inches (5 inches for riding mowers).
3. The blade shall not extend below the sides or rear of the blade enclosure except at the chute exit.

4. The high speed attained by the tip of the blade shall not exceed 21,000 feet per minute.

The specifications provide for destructive tests for the blades and blade mounting. One such test requires that the mower with its engine running shall be dropped on to a $\frac{3}{4}$ -inch steel rod 24 inches long, driven into the ground so that 4 inches of the rod extend above the surface, in such a manner that the rotating blade will hit the exposed portion of the rod. When this is done

(Concluded on page 30)

Automobile air conditioners

THERE is considerable interest in automobile air conditioners in many parts of our country. Conditioners are in particularly wide use in the southern and southwestern states, and in the western desert areas. Indeed, the number of automobiles that came from the factory equipped with air conditioners jumped from 40,000 in 1953 to 615,000 in 1960. (The latter figure represents about 9 percent of the total auto production for the year.) But only two in a hundred buyers of "compact" cars bought them equipped with air conditioners.

Points the buyer should consider

Before purchasing a car with an air conditioner or adding one to a car already purchased, one will want to consider the outlay involved and the effect the conditioner will have on the operating economy and efficiency of the car.

Factory installation is to be preferred in a new car, principally because factory-installed equipment provides a well integrated, functional unit. Prices vary, depending upon the make, model, and size of the interior of the car to be cooled. It is much more difficult to cool a station wagon than a four-door sedan of the same make, and the components of the cooling system must be correspondingly larger in capacity to provide the extra cooling needed.

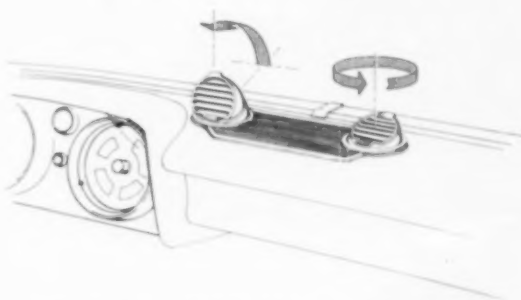
The price is also dependent, in many instances, upon whether the conditioner is purchased with the heater-defroster as a part of an integrated installation. You may find that with some factory installations the manufacturer will insist that your car be equipped with tinted glass (at \$30 to \$40 extra) and possibly a V-8 engine (at \$115 extra) instead of the 6 you may prefer. These conditions applying to some factory installations are indicative of the fact that a careful and well engineered installation will be needed with any car air conditioner if satisfactory cooling is to be realized. There's no chance of getting something for nothing; it costs money, in the form of gasoline purchases, to run an air conditioner compressor along with the many other accessories to which the car engine must supply power. The effect of adding the air conditioning load to the car's engine will be evident in two ways—first, as an increase in the cost of operating the car, and second by a noticeable decrease in the car's horsepower available for hill climbing and fast acceleration.

The following brief tabulation shows the range of factory-installed prices for automobile air conditioners (not including heater and other extras) for the principal automobile manufacturers.

American Motors Corp.	\$359-398 (includes heater)
Chrysler Corp.	\$375-640; average, \$390
Ford Motor Corp.	\$271-463; average, \$435
General Motors Corp.	\$317-474; average, \$430
Studebaker Corp.	\$288 (on Hawk V-8)

One expert from a company manufacturing air conditioning units has estimated that the operation of the conditioner adds from 4 to 12 cents per hour to operating cost at city-traffic speeds and that these figures will be increased to 8-18 cents at higher speeds. While these amounts are based on use of a system in which the compressor operates continuously, they are not likely to be much lower in hot weather with a system in which the compressor operates intermittently. Invariably, gasoline consumption will increase when the engine must power an air conditioner; the miles of travel on a gallon of gasoline will drop by at least 2 to 4, and very likely considerably more on a low-powered compact car.

The effect on car performance may be noticed in two ways. A car air conditioner utilizes from about 2 to 15 horsepower, depending on car speed. Thus, its use reduces the top speed capability of any car by a noticeable amount, a result which is certainly desirable from the standpoint of safety in most regular-sized cars. If the car has a high-powered engine, most drivers will never have occasion to find out that top speed dropped from 115 to 105 miles per hour when the air conditioner



ADJUSTABLE OUTLETS FOR AIR CONDITIONING

Courtesy Chrysler Corp

was installed and they are not likely to miss the "lost horsepower" at normal driving speeds because the power remaining to propel the car is always far more than is needed. However, if the engine is one of low or moderate power, a 10 percent reduction in the power available will be noticed. Obviously, in a low-horsepower car (in the 80- to 125-horsepower range), performance on the road in acceleration and hill climbing will be affected, possibly to an undesirable extent.

Consumers' Research recommends that the consumer would as a rule do well not to equip a compact car having an engine rated at under 110 horsepower with automatic transmission. The same recommendation applies in regard to equipping a compact car with air conditioning. And if you contemplate purchase of automatic transmission and air conditioning, you are likely to be unhappy if fewer than 125 nominal "horses" are available to give the car the performance you would like, or are used to.

How the conditioners work

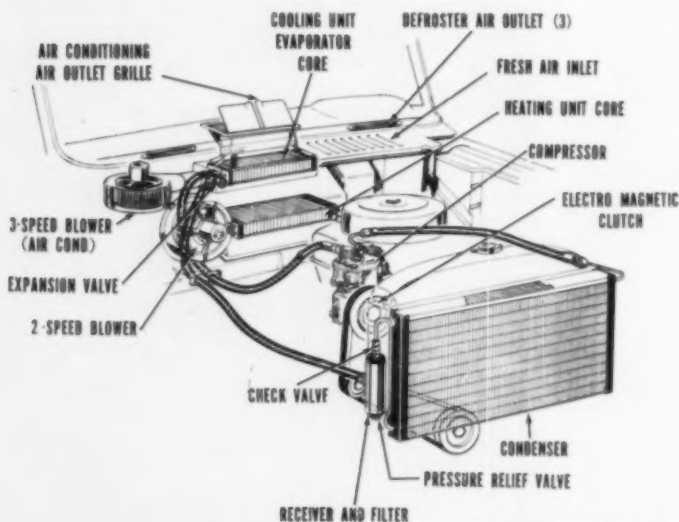
Although the first production car equipped with air conditioning—a Packard—was available more than 20 years ago, there have been few major changes in the basic design of automobile air conditioners since their introduction. Rather, the engineers have concentrated on such matters as weight reduction, improved controls, and better distribution of the cooled air.

The latest models still employ a compressor driven by the engine, a condenser mounted in front of the car radiator, and an evaporator which in conjunction with a fan powered by the car battery cools and distributes the air within the

car. The compressor must be of substantial size, because it has to deliver more than twice as much cooling as the compressor provides in a typical room air conditioner rated at 9000 Btu per hour capacity. The condenser and evaporator must be of ample size also, to handle the much larger heat load in an automobile. To complicate matters further it is necessary in an auto that these major parts be separated by comparatively long distances but connected by strong tubing with connections that will remain tight, even under the rough conditions of road strain and vibration normally experienced in automobile travel.

In most air conditioners used in the home, the compressor is run by an electric motor. (In room air conditioners the compressor-motor is usually a sealed, integrated unit.) Thus, the homeowner has no need to be concerned by the sudden rush of electrical energy when his conditioner motor starts up, because the power company supplies the electricity, and the wiring, if correct for the installation, can deliver the extra energy safely. In a car, however, the operation of the compressor does present a problem. Obviously it would run at all times when the car engine is running and would likely provide an excess of cool air under average conditions, unless some means were provided either to turn it on and off or to vary its capacity to cool.

There are two different means now widely used to provide control of the amount of cooling effect. In the system that Consumers' Research prefers, the one that is used by most manufacturers, a magnetic-clutch arrangement is mounted on the compressor drive shaft. Stated simply, it functions as follows: when the thermostat, which con-



An automobile air conditioner is basically no different from a room air conditioner or a refrigerator in its manner of operation. The refrigerant, usually Freon, is forced in the liquid state from the compressor to the evaporator, where it expands and becomes a gas. The heat required to change the refrigerant from a liquid to a gas is supplied by continuously recirculating the relatively warm air within the car over the evaporator core. Because the air in the car loses heat to the refrigerant in the evaporator, it is cooled. The hot gas is then forced through the condenser (located in front of the car radiator) where it is cooled by natural forced circulation of air and then sucked into the compressor and liquefied for its return trip through the system.

The relatively humid air in the car is also dehumidified as it is blown across the cooling unit evaporator core. Some of the water vapor carried by the air condenses on the cold core and is drained away.

Courtesy American Motors Corp.

trols the temperature of air within the car, acts to shut off the air conditioner, it merely declutches the pulley on the compressor shaft and the compressor stops. (The pulley and driving belt are driven by the car engine and continue to turn.) When cooling is needed, the thermostat causes the clutch to engage and the compressor to run.

In the other system, the compressor runs continuously as long as the air conditioner is turned on, and the thermostat actuates a by-pass valve which causes part or all of the refrigerant to return to the compressor without first passing through the cooling coils. Thus, the unit provides cooling only in the amount needed at a given time.

The by-pass system is more expensive to operate because the compressor imposes a heavy load on the engine at all times, a needless waste of engine power, and the life of the compressor is shortened because of the longer running time. The by-pass arrangement has the advantage, however, that it does not impose the variable heavy load on the engine that goes with the magnetic-clutch type of control, when the conditioner is in use.

Conditioners studied by CR

Consumers' Research's engineers checked several factory-installed air conditioners in cars of the leading manufacturers in the southeastern part of the United States and in the desert areas of Arizona and California. All of the systems studied had adequate capacity to cool the cars in which they were installed and were of satisfactory basic design. It was found that each model tested produced noticeable cooling within six minutes after it had been turned on, and after the car had been parked in the sun from 9:00 A.M. to 12:00 noon. There was also a noticeable drop in the relative humidity, an important consideration affecting one's feeling of comfort.

In assigning the ratings, we have given considerable weight to the country-wide availability of competent service for each brand listed. Unfortunately, road vibrations tend to cause leaks in the joints and tubing used to interconnect the various elements of the complete cooling system of any make; it is important, therefore, to have access to competent service, particularly when one is on an extended trip. It was noted during our investigation that, so far as service was concerned, most General Motors' dealers throughout the United States, even in the smaller communities, had qualified air-conditioner servicemen on their staffs, whereas many other dealers found it necessary to send the car to a "regional depot" for service; this arrangement could often involve considerable inconvenience for the car owner and perhaps a surprisingly high charge for service.

Thus you would be well advised to find out where your dealer has his service work done. If he must take your car to a distant service center when the air conditioner needs repair, you will have to pay him not only for the repairs made but also for the time his employee will take to drive your car to the repair station, wait for service, and return. In this connection, it should be stressed that one will be unwise to allow an inexperienced or untrained workman to repair or adjust automobile air conditioning equipment.

A. Recommended

Air conditioning factory-installed in General Motors cars. Available for all standard makes of General Motors cars with special versions available for the 1961 Buick Special, Oldsmobile F-85, and Pontiac Tempest cars.

All models tested used a compressor mounted in the engine compartment with a magnetic disengaging clutch that has given good service. The system uses a "sight-glass" to permit visual examination of the condition of the refrigerant, a good feature. Uses dashboard-mounted control unit with adjustable thermostat, three air-control vents, and 3-speed fan. Maximum cooling effect, with outside air at 80% relative humidity and at a temperature of 95°F gave air inside the car at 51% relative humidity and a temperature of 76°F.

Trained maintenance personnel available at most GM dealers.

B. Intermediate

Air conditioning factory-installed in American Motors cars. These units are built by Kelvinator for use in all Rambler automobiles.

All models tested used a compressor mounted in the engine compartment; a magnetic clutch is used to control operation. Dashboard-mounted control unit, with push-button controls, and 3-speed fan. Adjustable louvers in the air vent are located below the dashboard. Maximum cooling, with outside air at 80% relative humidity and 95°F temperature gave air inside the car at 52% relative humidity and a temperature of 78°F.

Cars usually sent by the service dealer to a Kelvinator dealer for service and recharge with refrigerant. If your local car dealer has a trained serviceman, this make is worthy of an A-Recommended rating.

Air conditioning factory-installed in Chrysler Corp. cars. For Plymouth, Dodge Dart, Dodge, Chrysler, and Imperial automobiles.

Models tested used two-cylinder, reciprocating-piston-type compressor with sight-glass for visual inspection of condition of refrigerant. All models tested showed satisfactory cooling capacity. One unit failed due to fracture of internal "butterfly" valves in compressor head. Failure of these valves may cause annoying loss of use of the car while it is being repaired. (Failures of the same type were noted on models of previous years.) Dashboard-mounted controls with adjustable thermostat using push-button controls for on/off and 3-speed fan. Maximum cooling capacity, with outside air at 80% relative hu-

midity and temperature of 95°F gave inside air at 54% relative humidity and a temperature of 78°F.

Cars are usually sent to "regional depot" or Chrysler air conditioner dealer for service and recharging with refrigerant.

Air conditioning factory-installed in Ford Motor Co. cars. For Ford, Mercury, and Lincoln.

Model tested used compressor mounted in engine compartment with dashboard-mounted cooling unit and fans. Two dashboard-mounted controls. One marked "Climate," was used to adjust thermostat, the other marked "Fan" was a 3-speed switch for fan control. At least two types of adjustable air grilles are available. Maximum cooling with outside air at 80% relative humidity and a temperature of 95°F gave inside air at 52% relative humidity and temperature of 78°F.

Cars usually sent to a "state center" for service and recharging of refrigerant.

* * *

Mark IV, Monitor (John E. Mitchell Co., 3800 Commerce St., Dallas) Models available for dealer installation in most makes of cars. This model was not included in Consumers' Research's tests, but it has been examined and we have received several reports of its satisfactory operation. The Mitchell Co. has a nationwide sales and repair organization. The *Mark IV* is also sold and installed by many automobile dealers who sell leading makes of cars. As is characteristic of dealer installations generally, the evaporator, fan unit, and controls are contained in a separate console which is mounted beneath the dash. The reciprocating-piston compressor is conventional and mounted in the engine compartment. The by-pass-valve type of control for control of cooling rate is used instead of a magnetic clutch (see text). A clutch is used, however, to turn the compressor on and off.

Helpful hints

- During the seasons when an automobile air conditioner is not in regular use, operate it from 5 to 10 minutes every two or three weeks. Occasional operation is necessary to keep the system properly lubricated and the compressor seals tight. (If they leak, some refrigerant and, consequently, cooling capacity will be lost.)

- The conditioner may be expected to remove moisture and "fog" from the inside of the car windows faster and more effectively than the defroster. Don't hesitate to use it for this purpose.

- It is desirable to have the entire system inspected and checked, late in the spring, by a skilled mechanic familiar with auto air conditioners. He will correct belt tension and may find it necessary to clean the system internally and recharge it with the correct type and amount of refrigerant.

- If there are separate air inlets to the car heater as well as the air conditioner, keep the heater inlets tightly closed in the summertime. Hot air coming in one partially open inlet, or window, can go a long way toward offsetting the cooling effect produced by the conditioner. In a well-designed conditioner, a small amount of fresh outside air is fed into the car's interior as

a normal characteristic of its operation.

- Have a mechanic check to be sure your car heater is really completely "off" in the summertime. Some heaters give off a little heat all the time.


- A light-colored paint is to be preferred to a dark (or black) color for the roof of the car. Use of a light roof color will help to reduce the heat within the car on a summer day and so to reduce the load that must be handled by the conditioner.

- The use of tinted glass throughout should be helpful in reducing the "load" on the conditioner. Tinted glass, however, does reduce nighttime visibility of objects that are difficult to see; some may not wish to take this extra risk of accident.

- If the evaporator becomes covered with ice, cooling capacity may be drastically reduced. If your unit is not equipped with an automatic defroster, you may get better cooling under humid weather conditions if you set the control at 1/4, or 1/2, rather than at the maximum cooling position.

- Park your car in the shade if possible.

- Don't be impatient to get quick cooling—remember that a car with one passenger can be cooled satisfactorily more quickly than the same car with several passengers.



FULL-SIZE AUTOMOBILES

THIS YEAR, with most of the interest centered on the compact cars, changes in the full-size automobiles have been of a minor nature. The trend toward greater stability of design is a very desirable one, for the bringing out of new models each year just to make the new cars appear different and the older cars passé was clearly against consumers' best interests.

The expense to the manufacturers each year for new dies and tooling was enormous, running to hundreds of millions of dollars; this needless expense was, of course, passed on to the consumer in the form of higher prices for cars. This year, fortunately, the trend toward innovation was checked and manufacturers in general have avoided change for the sake of change; they have been able, too, to avoid any significant increase in prices.

As pointed out in our May BULLETIN, for a person driving 10,000 miles per year, the saving to be made each year in operating expenses in driving one of the American compact cars instead of one of the Big 3's V-8 full-size cars amounts to about \$250, increasing to about \$360 for 20,000 miles per year. The differences in purchase price between a compact and the lowest-priced car of the same make range from about \$250 to \$725. In view of these sizable reductions in consumer outlays, it is not surprising that in 1960 one in every three cars sold was a "compact" or an imported car of corresponding or smaller size. Yet the *Comet*, which was introduced in March, the *Lancer*, introduced in September, the *Buick Special* and *Oldsmobile F-85* (October), and the *Pontiac Tempest* (November) were not even available for the full model year.

Hardest hit by the new compacts is the medium-priced group of cars, with *DeSoto* the first to be dropped from car makers' lines. At the end of February, 6 percent fewer "low"-priced full-size cars and 17 percent fewer medium-priced cars had been produced than in the same period of last

year, while at the same time production of compact cars had risen by 45 percent. In the highest-priced group, only Cadillac had increased production.

If you are looking for economy, don't buy a compact car and let the dealer persuade you to load it with accessories, or it may cost you more than a full-size car not so fully equipped. In Detroit, for example, a four-door *Buick Special* with accessories has a list price of more than \$2900.

Many full-size car owners have bought a small compact car for a second car only to find that the compact car becomes the No. 1 car of the family, and the big car is used only for major social events, putting on the dog, or when the small car is in use by another member of the family.

At the present time, there is a buyers' market in new cars, and while there are some dealers who will not sell unless they can get the full posted price, there are many others who will take what the market will bring, sometimes as low as \$50 over cost.*

Things wrong with late model cars

There are many things to criticize in the new cars. Individually they may not seem important, but if they were corrected, the totality of improvements and omissions would add up to cars vastly better and safer than those at present available. First, the trend to lower and lower cars should be reversed so that car bodies can be so designed as to provide easy entrance and exit, and not require a person to have the flexibility of an acrobat and make a spectacle of himself or bump his head or knock off his hat to get in or out.

Automatic transmission gear shifts should be standardized, with elimination of the dangerous arrangement used by *Hydra-Matic* (P.N.D₁, D₂, L.R.) in which the lever has to be shifted through Drive

*Retail and wholesale prices of all 1961 cars and their accessories can be obtained from The Car Fax Co., 550 Fifth Ave., New York 36, for \$5 postpaid.

and Low in order to get into Reverse. Very likely many avoidable accidents and some fatalities have been caused by this illogical arrangement, because the driver thought the car to be in *Reverse*, when actually it was in *Low*, as the lever had not been moved down far enough.

Horn rings of the conventional design should be eliminated; their breakage produces sharp slender spikes which may penetrate the chest, eyes, or skull in a collision. Horn rings that extend over only part of a circle, and buttons on the steering wheel rim are undesirable because the driver has no time to locate them in a sudden emergency.

There is no need for a flock of taillights; some cars have as many as eight rear lights, and eight lights at the front (with headlights and turn and parking lights) for the owner to check on and maintain, and eight lights are no more effective than a smaller number, properly designed. Rear lights should be designed so that they can be seen clearly by drivers approaching from the side. On many cars they are recessed, and can be seen only from the rear. Two headlights give more effective illumination than four, and two are used on the finest cars made, *Rolls Royce*, *Bentley*, whose aim is to provide the finest in quality, not gadgets for sales appeal.

American manufacturers should consider providing an adequate emergency brake instead of the present parking brake, which is often of slight value in an emergency. The emergency brake arrangement should be one of the type which was used on *Hudson* automobiles, in which a mechanical braking system took over under action of the foot pedal when the hydraulic brakes failed (as they will, unavoidably, at times). The *Rolls Royce* and *Bentley* provide three regular independent braking systems (two hydraulic and one mechanical), in addition to a hand-operated mechanical hand brake. The extra safeguard is worth while, for the accident that can follow an outright failure of hydraulic brakes on a car driven

at high speed or in dense traffic can cost many lives.

If manufacturers feel they must provide indicating lights for those who do not want to be bothered to learn the meaning of marks on meters and gauges, let the manufacturers supply such lights *in addition* to the ammeter and oil-pressure gauge. It is a disservice to omit these essential instruments from the modern car; many people can get valuable information from proper gauges, and the "idiot lights," as they are sometimes called, give *no* information when a bulb burns out (and no warning that the bulb has failed).

Car warranties

Those who have had difficulty, and their numbers must be legion, in getting satisfactory adjustments on their defective new cars under the 90-day warranty may well wonder if conditions will be improved under the new 12-month or 12,000-mile warranty now universally adopted. Actually the new warranties are not as broad as their nominal coverage seems to indicate. For example, the new warranties apply only to the parts assembled at the factory, and the workmanship performed there. They do not cover ordinary maintenance, care, or repairs required as the result of normal operation, routine wear and tear, or owner neglect. The warranties do not apply to such items as tires, batteries, glass, etc., which are covered by guarantees from other sources than the auto manufacturer. The new warranty is only as good as the dealer from whom the car was purchased. Some of the best dealers in the past have occasionally absorbed items the old 90-day factory warranty did not cover but it is doubtful if they could afford to continue to do this under the new 12-month warranty.

Perhaps with the new warranty in effect, automobile manufacturers may do a little tightening of their inspection and quality control; improvement in this direction is long overdue.

1961 cars—CR's recommendations in five price groups

Prices given are the posted or factory-suggested prices for the basic cars (4-door sedans, unless otherwise noted), and include federal tax, distribution, and handling charges. They do not include freight, which can range from \$10 to \$120,

depending on the weight of the car and distance from factory to destination, nor do they include state and local taxes, or radios, heaters, or other accessories except automatic transmissions when indicated.

PRICE GROUP 1 (\$2300 TO \$2590)

»CR's selections of preferred cars in price group 1.

Standard transmission or automatic transmission

First choice: Ford 6 or V-8

Second choice: Chevrolet 6 or V-8

Third choice: Rambler Ambassador V-8 (standard transmission) or Plymouth 6 or V-8

Cars with standard transmissions	Price
Chevrolet Biscayne 6.....	\$2316
Chevrolet Biscayne V-8.....	2423
Chevrolet Bel Air 6.....	2438
Chevrolet Bel Air V-8.....	2545
Chevrolet Impala 6.....	2590
Dodge Dart Seneca 6.....	2335
Dodge Dart Seneca V-8.....	2454
Dodge Dart Pioneer 6.....	2464
Dodge Dart Pioneer V-8.....	2583
Ford Fairlane 6.....	2315
Ford Fairlane 500 6.....	2430
Ford Fairlane V-8.....	2431
Ford Fairlane 500 V-8.....	2546
Ford Galaxie 6.....	2590
Mercury Meteor 600 6.....	2471
Mercury Meteor 600 V-8.....	2587
Plymouth Savoy 6.....	2310
Plymouth Savoy V-8.....	2429
Plymouth Belvedere 6.....	2439
Plymouth Belvedere V-8.....	2558
Plymouth Fury 6.....	2575
Rambler Ambassador Deluxe V-8.....	2395
Rambler Ambassador Super V-8.....	2537

Cars with automatic transmissions

Chevrolet Biscayne 6.....	2504
Dodge Dart Seneca 6.....	2527
Ford Fairlane 6.....	2495
Plymouth Savoy 6.....	2502

PRICE GROUP 2 (\$2600 TO \$2899)

»CR's selections of preferred cars in price group 2.

Standard transmission

First choice: Pontiac Catalina V-8

Second choice: Ford Galaxie V-8

Third choice: Chevrolet Impala V-8

Automatic transmission

First choice: Ford 6 or V-8

Second choice: Chevrolet 6 or V-8

Third choice: Rambler Ambassador V-8 or Plymouth 6 or V-8

Cars with standard transmissions

	Price
Chevrolet Impala V-8.....	\$2697
Dodge Dart Phoenix 6.....	2600
Dodge Dart Phoenix V-8.....	2719
Ford Galaxie V-8.....	2706
Mercury Meteor 800 6.....	2649
Mercury Meteor 800 V-8.....	2765
Mercury Monterey V-8.....	2869
Plymouth Fury V-8.....	2694
Pontiac Catalina V-8.....	2702
Rambler Ambassador Custom V-8.....	2682

Cars with automatic transmissions

Chevrolet Biscayne V-8.....	2622
Chevrolet Bel Air 6.....	2626
Chevrolet Impala 6.....	2778
Chevrolet Impala V-8.....	2896
Dodge Dart Seneca V-8.....	2643
Dodge Dart Pioneer 6.....	2656
Dodge Dart Pioneer V-8.....	2772
Dodge Dart Phoenix 6.....	2792
Ford Fairlane 500 6.....	2610
Ford Fairlane V-8.....	2621
Ford Fairlane 500 V-8.....	2736
Ford Galaxie 6.....	2770
Ford Galaxie V-8.....	2896
Mercury Meteor 600 6.....	2651
Mercury Meteor 600 V-8.....	2777
Mercury Meteor 800 6.....	2829
Plymouth Savoy V-8.....	2618
Plymouth Belvedere 6.....	2631
Plymouth Belvedere V-8.....	2747
Plymouth Fury 6.....	2767
Plymouth Fury V-8.....	2883
Rambler Ambassador Deluxe V-8.....	2625
Rambler Ambassador Super V-8.....	2767

PRICE GROUP 3 (\$2900 TO \$3250)

»CR's selections of preferred cars in price group 3.

Standard transmission

First choice: Pontiac Star Chief

Second choice: Oldsmobile 88 or Super 88

Third choice: Chrysler Newport or Windsor

Automatic transmission

First choice: Pontiac Catalina or Star Chief

Second choice: Oldsmobile 88

Third choice: Buick LeSabre

Cars with standard transmissions

	Price
Chrysler Newport V-8.....	\$2964
Chrysler Windsor V-8.....	3218
Dodge Polara V-8.....	2966
Oldsmobile 88 V-8.....	2900
Oldsmobile Super 88 V-8.....	3176
Pontiac Star Chief.....	3003

Cars with automatic transmissions

Buick LeSabre.....	3107
Chrysler Newport.....	3191
Dodge Dart Phoenix V-8.....	2930
Dodge Polara V-8.....	3177
Mercury Meteor 800 V-8.....	2955
Mercury Monterey V-8.....	3059
Oldsmobile 88.....	3131
Pontiac Catalina.....	2933
Pontiac Star Chief.....	3234
Rambler Ambassador Custom V-8.....	2912

No tests were made by CR on cars in the high-price groups 4 and 5 (which together constitute only about 6 to 8 percent of today's automobile market), but tentative choices are made upon the basis of information available to CR.

PRICE GROUP 4 (\$3400 TO \$4125)

»CR's selections of preferred cars in price group 4.

Automatic transmission

First choice: Oldsmobile Super 88 or 98

Second choice: Buick Invicta or Electra

Third choice: Chrysler Windsor or New Yorker

Cars with automatic transmissions	Price
Buick Invicta (4-door hardtop).....	\$3515
Buick Electra.....	3825
Chrysler Windsor.....	3445
Chrysler New Yorker.....	4123
Oldsmobile Super 88.....	3407
Oldsmobile 98.....	3887

PRICE GROUP 5 (over \$5000)

»CR's selections of preferred cars in price group 5.

Automatic transmission

First choice: Imperial

Second choice: Cadillac

Third choice: Lincoln Continental

Cars with automatic transmissions	Price
Cadillac 62.....	\$5080
Cadillac 60.....	6233
Cadillac 75.....	9543
Imperial Custom (hardtop).....	5094
Imperial Crown.....	5647
Lincoln Continental.....	6067

Plymouth V-8



Practically the same as last year's model except for the new body style in which the prominent vertically-projecting tail fins have been eliminated (a needed improvement). Depreciation first year, about \$800 (30 percent), about the same as Chevrolet but less than Ford.

LEG ROOM was adequate in the front, but more leg room would be desirable in the rear. Headroom front and rear was barely adequate for tall people. Car was fairly easy to enter, with a slight step-down area in the front and a more pronounced step-down area in the rear. Automatic transmission operated satisfactorily, but had no "park" position. The speedometer, which was of the modified "thermometer" type with vertically rising segments (every 5 miles per hour), was found to be confusing to read; the driver is uncertain of the speed while waiting for the next segment to appear. Used an alternator instead of a d-c generator. (The alternator is a good feature.) Heater and defroster action were satisfactory. An indicator light was used for oil pressure, but the more desirable gauges were used for alternator action and water temperature. Night illumination of the dash was satisfactory.

Prices

The car tested by Consumers' Research was a *Plymouth Fury V-8*, 2-door hardtop.

"Posted price," \$3281.25, itemized as follows: Manufacturer's suggested selling price, \$2718 (4-door sedan, \$2694); *TorqueFlite* transmission, \$210.70; heater-defroster, \$74.40; radio, \$58.50; power steering, \$76.60; white sidewall tires, \$33.35; wheel covers, \$18.55; two-tone paint, \$16.95; anti-freeze, \$5.20; freight, \$69.

Riding and handling qualities

Riding quality was very good over normal roads at speeds up to 65 miles per hour, but over rough roads and potholes the ride was somewhat bumpy. There was a noticeable but not objectionable leaning of the car in turning corners at above-average speeds. Cornering was good in city driving. Seats were comfortable, and the front seat could be repositioned by removing seat bolts, to increase or decrease front leg room.

Road tests of accelerating ability

Acceleration times were:

0 to 60 m.p.h.	16.5 sec.
20 to 50 m.p.h.	11.5 sec.
40 to 60 m.p.h.	9.0 sec.

These times were approximately the same as those obtained for the *Ford V-8*, and are judged adequate for almost any careful or conservative driver.

Instrument errors

Speedometer was about 2 percent slow at 50 miles per hour. Odometer was about 5 percent fast.

Gasoline mileage under test conditions

At a constant speed of 50 miles per hour, the *Plymouth Fury V-8* gave 17.5 miles per gallon (*Ford V-8* by comparison gave 19 miles per gallon). In city driving, miles per gallon ranged from 12 to 16.

Brakes

Service brakes were satisfactory. The parking brake was of the foot-operated ("step-on") type with hand-operated release located under the instrument panel and was judged to be of an unsatisfactory type for use as an emergency brake (requires left-hand and left-foot coordination). This parking brake, like that on other Chrysler-built cars (except the *Valiant*), acts on the transmission output shaft, an undesirable brake arrangement which has been discussed in previous CONSUMER BULLETINS.

Rambler Ambassador V-8



Judged to be a good car. Priced to compete with Chevrolet, Ford, and Plymouth. First year's depreciation, about \$850 (30 percent).

ALTHOUGH classed by American Motors as a "DeLuxe Compact," the *Ambassador* with its 117-inch wheelbase and 199-inch over-all length (10

(Continued on page 22)

EXPLANATION OF COLUMN HEADINGS IN THE TABLE PAGES 20 AND 21

Manufacturer's rated horsepower at stated revolutions per minute is the figure claimed by the manufacturer. The manufacturers' figures are misleading, for the actual maximum brake horsepower delivered to the rear wheels will be a great deal less (perhaps 50 percent or so).

Piston displacement per mile and miles per gallon. Displacement in thousands of cubic inches per mile gives an approximate guide to the fuel economy of a car; the smaller the displacement on a per-mile-of-travel basis, the more miles per gallon of gasoline a car of given weight will deliver. Other factors which affect fuel economy are compression ratio, weight, and driving speed. If driving were done at a constant moderate speed and on smooth, level roads, the weight of the car would not have an important effect on miles per gallon performance, but with the constant need to accelerate and decelerate a car, car weight becomes very important; a heavy car takes more gasoline in getting up to speed, and up hills. The miles per gallon obtained in normal driving should, as a rule, be between seven tenths (0.7) and nine tenths (0.9) of the figures given in the table for a constant speed of 50 miles per hour, depending, of course, upon the weight of the car, passengers and luggage, type of driving, nature of the terrain, driving speeds, and personal driving habits. (The last named factor is very important in determining gasoline consumption.)

Percent overload on tires. Whether or not tires are overloaded is determined by comparing the maximum allowable tire loads as given by the Tire and Rim Association at the recommended inflation pressures with actual tire loads based upon figures for weight distribution as given in automobile manufacturers' specifications. A 750-pound passenger load is assumed in all instances for 6-passenger cars.

Acceleration time in seconds. Acceleration tests are made by approaching a starting point, in top or "Drive" gear, at each of two constant speeds, one of 20 and one of 40 miles per hour, then immediately pressing the accelerator pedal to the floor. The 20 to 50 and 40 to 60 miles per hour ranges have been selected to give an indication of the ability of the particular car to pass another slower-moving car or truck on the road. Tests are also made starting from rest to 60 miles per hour through the gears in standard transmission cars or in the normal "drive" range in automatic transmission cars. CR's results should be representative of what the average consumer can obtain (on cars not specially tuned and manipulated by experts to give the highest obtainable accelerations).

MAKE AND MODEL	DIMENSIONS AND WEIGHT					MECHANICAL				
	Wheel-base, inches	Over-all length, inches	Width, inches	Minimum road clearance, inches	Shipping weight, pounds, including auto. trans.	Turning diameter, feet	Manufacturer's rated horsepower at stated rpm.	Compression ratio, standard	No. of steering turns	
									Manual steering	Power steering
Buick Le Sabre V-8 Invicta V-8‡ Electra V-8	123.0	213	78.0	5.5	4100	44	250 at 4400	10.25	5.0	4.0
	123.0	213	78.0	5.5	4180	44	325 at 4400	10.25	5.0	4.0
	126.0	219	78.0	5.7	4300	46	325 at 4400	10.25	—	4.0
Cadillac 62 V-8 60 V-8 76 V-8	129.5	222	80.0	5.3	4680	43	325 at 4800	10.5	—	3.7
	129.5	222	80.0	5.3	4770	43	325 at 4800	10.5	—	3.7
	149.8	242	81.0	6.2	5390	49	325 at 4800	10.5	—	3.7
Chevrolet 6 V-8	119.0	209	78.5	6.0	3600	41	135 at 4000	8.25	5.8	5.2
	119.0	209	78.5	6.0	3605	41	170 at 4200	8.5	5.8	5.2
Chrysler Newport V-8 Windsor V-8 New Yorker V-8	122.0	216	79.5	5.2	3770	44	265 at 4400	9.0	5.5	3.5
	122.0	216	79.5	5.2	3790	44	305 at 4800	10.0	5.5	3.5
	126.0	220	79.5	5.5	4055	47	350 at 4600	10.1	—	3.5
Dart 6 V-8	118.0	209	78.5	5.0	3335	42	145 at 4000	8.2	5.5	3.5
	118.0	209	78.5	5.1	3515	42	230 at 4400	9.0	5.5	3.5
Dodge Polara V-8	122.0	213	78.5	5.2	3775	44	265 at 4400	9.0	5.5	3.5
Ford 6 V-8	119.0	210	80.0	5.5	3595	41	135 at 4000	8.4	5.5	3.9
	119.0	210	80.0	5.5	3695	41	175 at 4200	8.8	5.5	3.9
Imperial Custom V-8‡	129.0	227	82.0	5.6	4740	48	350 at 4600	10.1	—	3.5
Lincoln V-8	123.0	212	78.5	5.6	4925	46	300 at 4100	10.0	—	3.8
Mercury Meteor 600 6 Meteor 800 V-8 Monterey V-8	120.0	215	80.0	5.5	3625	42	135 at 4000	8.4	5.5	3.9
	120.0	215	80.0	5.4	3775	42	175 at 4200	8.8	5.5	3.9
	120.0	215	80.0	5.4	3790	42	175 at 4200	8.8	5.5	3.9
Oldsmobile 88 V-8 Super 88 V-8 98 V-8	123.0	212	77.0	5.6	4040	46	250 at 4200	8.75	6.1	4.0
	123.0	212	77.0	5.6	4080	46	325 at 4600	10.0	6.1	4.0
	126.0	218	77.0	5.8	4210	44	325 at 4600	10.0	—	4.0
Plymouth 6 V-8	118.0	210	80.0	4.7	3365	42	145 at 4000	8.2	5.5	3.5
	118.0	210	80.0	5.0	3520	42	230 at 4400	9.0	5.5	3.5
Pontiac Catalina V-8 Star Chief V-8 Bonneville V-8‡	119.0	210	78.0	6.0	3740	46	215 at 3600	8.6	5.5	4.25
	123.0	217	78.0	6.0	3860	47	215 at 3600	8.6	5.5	4.25
	123.0	217	78.0	6.0	3915	47	235 at 3600	8.6	5.5	4.25
Rambler Ambassador V-8	117.0	199	73.5	5.5	3380	40	250 at 4700	8.7	4.7	4.6

‡Hardtop model.

SPECIFICATIONS								PERFORMANCE ON TEST				MAKE AND MODEL
Displacement, cu. in.	Piston disp. in thousands cu. in./mile ÷ 2		Tire size	Percentage overload on tires		Automatic transmission	Recommended fuel	Acceleration time in seconds in the range			Fuel economy m.p.g. at 50 m.p.h.	
	Std. trans.	Auto. trans.		Front	Rear			0 to 60 m.p.h.	20 to 50 m.p.h.	40 to 60 m.p.h.		
364	—	415	7.60 x 15	18	12	std	prem	12.0	6.5	6.0	17.0	Buick Le Sabre V-8 Invicta V-8‡ Electra V-8
401	—	480	7.60 x 15	19	14	std	prem	•	•	•	•	
401	—	470	8.00 x 15	15	10	std	prem	•	•	•	•	
390	—	410	8.00 x 15	•	•	std	prem	•	•	•	•	Cadillac 62 V-8 60 V-8 75 V-8
390	—	410	8.00 x 15	5	•	std	prem	•	•	•	•	
390	—	465	8.20 x 15½	19	15	std	prem	•	•	•	•	
236	310	310	7.50 x 14	•	5	opt	reg	19.5	10.0	11.5	17.5	Chevrolet 6 V-8
283	370	340	7.50 x 14	•	6	opt	reg	14.5	7.5	7.0	17.0	
361	445	400	8.00 x 14	•	•	opt	reg	11.5	7.5	6.5	16.0	Chrysler Newport V-8 Windsor V-8 New Yorker V-8
383	470	425	8.00 x 14	•	•	opt	prem	•	•	•	•	
413	—	450	8.50 x 14	•	•	std	prem	•	•	•	•	
225	315	295	7.00 x 14	13	14	opt	reg	21.0	16.0	11.0	21.5	Dart 6 V-8
318	440	410	7.50 x 14	•	7	opt	reg	•	•	•	•	
361	—	400	8.00 x 14	•	•	opt	reg	•	•	•	•	Dodge Polara V-8
223	310	310	7.50 x 14	•	8	opt	reg	21.0	13.0	10.5	19.5**	Ford 6 V-8
292	410	345	7.50 x 14	•	9	opt	reg	17.0	11.5	8.5	19.0**	
413	—	425	8.20 x 15	•	•	std	prem	•	•	•	•	Imperial Custom V-8‡
430	—	460	9.00 x 14	13	•	std	prem	•	•	•	•	Lincoln V-8
223	310	310	7.50 x 14	•	7	opt	reg	•	•	•	•	Mercury Meteor 600 6 Meteor 800 V-8 Monterey V-8
292	410	345	7.50 x 14	7	8	opt	reg	15.5†	8.5†	8.0†	17.5†	
292	410	345	7.50 x 14	7	10	opt	reg	•	•	•	•	
394	510	425	8.00 x 14	15	7	opt	reg	11.0	7.5	7.0	17.0	Oldsmobile 88 V-8 Super 88 V-8 98 V-8
394	510	460	8.00 x 14	16	8	opt	prem	•	•	•	•	
394	—	470	8.50 x 14	10	•	std	prem	•	•	•	•	
225	315	295	7.00 x 14	13	8	opt	reg	•	•	•	•	Plymouth 6 V-8
318	440	410	7.50 x 14	•	•	opt	reg	16.5	11.5	9.0	17.5	
389	470	390	8.00 x 14	6	•	opt	reg	9.5	6.0	6.5	18.0	Pontiac Catalina V-8 Star Chief V-8 Bonneville V-8‡
389	470	420	8.00 x 14	9	7	opt	reg	•	•	•	•	
389	470	420	8.00 x 14	11	9	opt	reg	•	•	•	•	
327	440	355	8.00 x 14	•	•	opt	reg	12.5	7.0	6.0	18.0	Rambler Ambassador V-8

opt—optional; prem—premium; reg—regular; std—standard.
 • Not tested.
 † With optional 220 hp. engine.
 ‡ 6 ply.
 **With standard transmission.

For explanation of column headings, see page 19.

inches shorter than the *Chevrolet* and 4 inches longer than the *Comet*) would seem to be more properly considered a full-size car, even though it has the same body dimensions inside as the "compact" *Rambler Classic*.

Leg room and headroom in the front were satisfactory, but more leg room in the rear would be desirable. The car was relatively easy to enter in the front but not in the rear, for tall or large people. The car has bolted-on front fenders, a feature that should lessen the cost of body repairs. The model tested was equipped with all-season air conditioning which had very simple, easy-to-use controls and operated satisfactorily. Moisture condensation on windshield and windows was removed rapidly by the air conditioner.

Disadvantages

Indicating lights instead of the more desirable gauges are used for generator and oil pressure. The glove compartment is somewhat small.

Prices

The model tested by Consumers' Research was the *Rambler Ambassador V-8 Custom* 4-door sedan with automatic transmission and air conditioning.

"Posted price," \$3825.45, itemized as follows: Manufacturer's suggested retail price, \$2682 (*Deluxe* model \$2395, *Super* model \$2537); automatic transmission, \$229.50; all-season air conditioner, \$398; *Solex* glass, \$33; power saver fan, \$19.50; power steering, \$89.50; power brakes, \$41.95; self-adjusting brakes, \$7.45; radio and antenna, \$86.20; reclining seat, \$25.50; foam-rubber cushions, \$28.70; 8.00 x 14 white sidewall tires, \$36.50; wheel disks, \$16.95; padded instrument panel and visors, \$21.50; undercoating, \$14.95; freight, \$94.25.

Riding and handling qualities

The *Ambassador V-8* gave a very good ride on all types of roads, including rough country roads. It cornered well on sharp turns, handled well, and, with power steering, was very easy to park. The well-upholstered front seats with individually adjustable backs were very comfortable. Internal noise was low.

Road tests of accelerating ability

Acceleration times were:

0 to 60 m.p.h. (D ₂ position)	12.5 sec.
20 to 50 m.p.h. (D ₂ position)	7.0 sec.
40 to 60 m.p.h. (D ₂ position)	6.0 sec.

These acceleration times (just about the same as those of *Buick LeSabre*, and faster than those of *Chevrolet V-8*, *Ford V-8*, and *Mercury Meteor V-8*) were judged to be more than adequate for any driver.

Instrument errors

Speedometer was approximately 4 percent fast at 50 miles per hour. Odometer was approximately 2 percent fast.

Gasoline mileage under test conditions

At a constant speed of 50 miles per hour, the *Rambler Ambassador* gave 18 miles per gallon, which is about normal for a car of this type.

Brakes

The self-adjusting power brakes performed well. Parking brake was of the step-on type with a pull-up manual release to the left of the steering column, a type not considered as satisfactory as the hand-operated pull-type brake for use in an emergency.

Oldsmobile Dynamic 88



The *Dynamic 88* is unquestionably a good car for those who want snappy acceleration and good riding qualities, but the car is judged to be somewhat overpriced in comparison with the *Pontiac Catalina*. Depreciation of the *Oldsmobile Dynamic 88* for the first year, about \$875 (26%, which is low).

OVER-ALL LENGTH, following the general trend, has been reduced by 5½ inches. The car was relatively easy to enter because of the relatively high and wide doors, but there was a step-down area in both the front and the rear. Headroom was adequate, but more leg room in the rear would be desirable. The desirable thermometer-type speedometer, which changes color for different speed ranges, is continued this year. Heater and defroster action was very good.

Disadvantages

The design of the new *Hydra-Matic* transmission is such that if the battery should go dead, the car cannot be pushed to start. Signal lights instead of gauges were used for generator, oil pressure, and temperature.

Prices

The car tested by Consumers' Research was an *Oldsmobile Dynamic 88* 4-door *Holiday* hardtop sedan.

"Posted price," \$3860.82, itemized as follows: Manufacturer's suggested selling price, \$3034 (the regular 4-door sedan sells for \$134 less); *Hydra-Matic* transmission, \$231.34; radio, \$88.77; heater and defroster, \$97.38; power steering, \$107.50; power brakes, \$43; two-speed wipers, \$5.27; deluxe steering wheel, \$15.44; glare-proof mirror, \$4.51; visor vanity mirror, \$1.72; luggage compartment lamp, \$1.72; underhood lamp, \$2.15; glove box lamp, \$2.15; back-up lamps, \$9.63; outside rear-view mirror, \$3.98; wheel-trim rings, \$11.62; white sidewall tires, \$40.78; custom luxury trim, \$38.74; two-tone paint, \$15.82; anti-freeze, \$7.30; transportation charge, \$98.

Riding and handling qualities

The riding quality of the *Oldsmobile Dynamic 88* was very good, even better than that of last year's model, probably due to the improved suspension, improved frame, and the new automatic transmission. The car handled well on hilly, curved roads, and cornered well on sharp turns. Seats were very comfortable and higher than normal, giving a better view of the road. Internal noise was low.

Road tests of accelerating ability

Acceleration times were:

0 to 60 m.p.h.	11.0 sec.
20 to 50 m.p.h.	7.5 sec.
40 to 60 m.p.h.	7.0 sec.

These accelerations are very fast, and faster than last year's *88*. Rated horsepower has been increased from 240 to 250. The horsepower increase is undesirable, as last year's *Oldsmobile 88* was considered too powerful and fast in acceleration for the average driver.

Instrument errors

Speedometer was approximately 4 percent fast at 50 miles per hour. Odometer was approximately correct.

Gasoline mileage under test conditions

At a constant speed of 50 miles per hour, the *Oldsmobile Dynamic 88* gave 17 miles per gallon (about normal for this class of car). In city driving, gasoline mileage ranged between 11 and 14 miles per gallon.

Brakes

The power-operated service brakes were satisfactory, but there was a sharp nose dip on emer-

gency stops. Engine braking action when the car was descending hills was satisfactory. Parking brake was of the step-on type with pull-up manual release, an arrangement that is not considered as satisfactory as the hand-operated pull-type brake for use in an emergency.

Buick LeSabre



A satisfactory car of its type for those who feel they need a big car with fast acceleration. Depreciation of the LeSabre for the first year, about \$925 (27 percent, a little below average).

Buick, which once held third place in sales but dropped to seventh place in 1959, was down to eighth place in 1960. This loss in popularity may have been due to serious failures of clutches and "Standard" transmissions on the older models of the full-size *Buick Specials* which tended to weaken the standing of the *Buick* line with consumers. (This year Buick does not supply standard transmissions on any of its full-size cars.) The torque tube drive, which had some advantages, has also been dropped this year; the change permits lowering of the transmission hump and gives an improvement in the car's handling qualities. The *Mirromagic*, in which the speedometer and other instrument dials are read in a mirror, has been continued from last year. This feature was satisfactory except on cloudy days or when outdoor light was weak; under those circumstances it was difficult to read the instruments.

Leg room and headroom were judged adequate in both front and rear. Car was easy to enter, and seats were comfortable. Heater-defroster was satisfactory, and provided ample heat to the rear seat, which helped to defrost rear window. Internal illumination, better than average.

Disadvantages

Signal lights, instead of the more desirable meters, were used for battery charge indicator, oil pressure, and temperature. Trunk sill was high, making it difficult to load heavy or bulky packages. The X-type frame used on this car is not

considered as desirable, from a safety standpoint, as frames with heavy side members.

Prices

The car tested by Consumers' Research was a *LeSabre* 4-door sedan with power steering and power brakes. (Automatic transmission, standard equipment.)

"Posted price," \$3848.19, itemized as follows: Manufacturer's suggested list price, \$3107; heater and defroster, \$98.90; radio and antenna, \$90.30; rear-seat speaker, \$17.20; power steering, \$107.50; power brakes, \$43; safety group, \$34.40; windshield washer and dual-speed wiper, \$20.43; *Easy-Eye* glass, \$43; foam-rubber cushions, \$22.58; deluxe wheel covers, \$19.35; electric clock, trunk light, license plate frame, \$21.50; exterior molding, \$40.85; chrome door guards, \$8.60; white sidewall tires, \$43.27; automatic trunk release, \$9.68; two-tone paint, \$16.13; anti-freeze, \$6.50; transportation charge, \$98.

Riding and handling qualities

On winding, hilly, country highways, the ride was very good, and somewhat firmer than with last year's model, due to improvements in the suspension. There was, however, still some rear wheel hop on tar-filled dividers and potholes. The car handled very well on curves. Acceleration was very smooth, and there was very little tendency of the car to "squat" on fast acceleration or "dive" on emergency stops. Seats were comfortable.

Road tests of accelerating ability

Acceleration times were:

0 to 60 m.p.h.	12.0 sec.
20 to 50 m.p.h.	6.5 sec.
40 to 60 m.p.h.	6.0 sec.

This car ranks very high in accelerating ability, with *Oldsmobile 88* and *Pontiac Catalina*. Considered too fast in acceleration for the average driver.

Instrument errors

Speedometer was approximately 4 percent fast at 50 miles per hour. Odometer was approximately 3 percent fast.

Gasoline mileage under test conditions

At a constant speed of 50 miles per hour, the 250-horsepower *Buick LeSabre* gave 17 miles per gallon. Miles per gallon on a trip was about 15. Both about normal for a car of this size and power.

Brakes

The power brakes were very satisfactory in action. There are aluminum-finned brake drums at the front, cast-iron drums at the rear. Parking brake was of the step-on type with a pull-down manual release above the pedal, not a desirable

arrangement for use as an emergency brake.

Some additional braking power from engine and transmission would be desirable in descending steep grades.

Note: Detailed reports on the *Chrysler Newport* and *Mercury Meteor 800 V-8* will appear in a forthcoming issue.

Reprints from CONSUMER BULLETIN

Title	Bulletin issue	No. of pages	Price (stamps acceptable)
Automobile specialties:			
Using today's easy driving accessories on your car takes gasoline	Oct. '60	2	10c
"Miracle" additives for your car's crankcase?	July '59	3	15c
Gadgets and "specialties" for automobiles	Jan. '59	4	15c
Economic problems:			
Does "buy now, pay later" cost too much?	Aug. '60	2	10c
The parking meter problem	July '59	4	15c
Fact and fancy in mail-order ads	Feb. '59	3	10c
Discount houses	Oct. '57	3	10c
It's often wise to check up on a company before you buy	Sept. '53	3	10c
Eyeglasses:			
Bifocals in contact lenses	Jan. '61	2	10c
Contact lenses	July '59	3	10c
(Both by Furman Dorman, M.D.)			
Food and nutrition:			
Sugar, enemy of good nutrition			
Part I	Feb. '61	4	15c
Part II	Mar. '61	4	15c
Food and nutrition	'60-'61 Annual	9	25c
Milk—an overrated food			
Part I	Nov. '59	6	20c
Part II	Mar. '60	5	20c
Hold that salt!	Sept. '59	4	15c
Those labels on packaged foods	Feb. '58	3 (mimeo)	10c
The food you eat	Sept. '57	5	20c
Fat in the diet	July '57	4	15c
Heart disease, and fatty foods	Dec. '57	5 (mimeo)	20c
Home furnishings, equipment, safety:			
The wrong fire extinguisher may cost your life	Oct. '60	5	15c
Refrigerator-freezers using gas for fuel	Sept. '60	3	10c
Getting the most service from your rugs	May '60	4	15c
Rugs and carpets, selection	Apr. '60	5	20c
Softening the water we use	Feb. '60	7	20c
Japanese transistor portable radios	Nov. '59	3	10c
Automatic washing machines	May '59	7	25c
Carbon tetrachloride poisoning	July '56	3	15c
Finishing of western red cedar and redwood	Feb. '55	3	10c
Reference books:			
Which encyclopedia for children?	Dec. '59	3	10c

A study of some food labels

(The beginning of this article is on page 2)

are several. The table of ingredients includes "milk chocolate, with added emulsifier and vanillin, an artificial flavor, peanuts coated with nutritive glaze containing zein (corn protein), palmitic and oleic acids with butylated hydroxy-anisole, propyl gallate and citric acid in propylene glycol added to improve stability of confection." Note the vagueness here. The consumer would like to know exactly which ingredients are the preservatives; actually there are no less than three. The reader who sent in the label thought that the complexity of this formulation was suggestive of an industrial product rather than a food.

Another label, of a popular brand of assorted chocolates, showed no less than 31 ingredients. Some of them were food materials, but a considerable proportion of the total were a variety of chemical substances. Among the total of 17 normal food materials were sugar, brown sugar, maple sugar, molasses, sweetened condensed whole milk, and evaporated milk, "hardened vegetable oil," egg albumen. The rest of the 31 ingredients were chemical additives (14 in all); a few of these were: vegetable gum, sorbitol, artificial flavors (unnamed), artificial color (unnamed), and no less than four kinds of chemical preservatives: citric acid in lecithin and vegetable

oil, butylated hydroxytoluene, butylated hydroxy-anisole, and propyl gallate.

There is not the slightest reason why the list of ingredients should not be just as easy to find and as quickly read as the manufacturer's plug for his product and recipes for its use. Furthermore, all ingredients labeling should be in the same position on every package; that position should preferably be on the main panel, where all can easily see and read it.

The various devices for making labels hard to read are being continually augmented by package designers. One of the latest is to put a few ingredients on one face of a package and carry the remainder of them on a different panel, "around



The accompanying pictures show two panels of a box containing Kellogg's ALL STARS NEW Sugar-Toasted Oat Cereal. Note how much room there is for everything but the list of ingredients, which, though in clear type of fair size, is relegated to an inconspicuous position, on one of the side panels. The areas of the front, back, side, and end surfaces of the box come to a total of 180 square inches. The space taken for the required list of ingredients and additives is 0.9 square inch. Many consumers would think that the manufacturer might reasonably provide a good deal more than half of one percent of the total available panel area for his statement of ingredients if so important and complex a food product as one of today's breakfast cereals. "All Stars" contains in addition to an objectionably high proportion of sugar, a "certified color" [dye] and butylated hydroxytoluene (a preservative).

Made from unbleached flour, sugar, pure vegetable shortening, raisins, oatmeal, eggs, molasses, baking soda, pure vanilla, salt.

(39) ¢

Once in a while, though not often, one finds a label that states ingredients clearly and simply, and the maker includes no objectionable or questionable ingredients. (The package was large enough to provide ample room for larger type than was actually used to list the ingredients.) The list of ingredients shown is that of Pepperidge Farm Oatmeal Raisin Cookies. Too bad so few food manufacturers exhibit such high standards of selection of materials for their processing!

the corner." Thus the consumer thinks he is reading a complete list of ingredients on one face of the package and does not think to turn it over (through 90 degrees), to find the remaining ingredients—which are very likely the unfamiliar and nutritionally less desirable ones.

Labels on packages of candies are particularly worth reading, for candy manufacturers have employed a great many expedients of a chemical nature in making their candy last a long time before it has to be thrown away or sold at a sacrifice price for clearance. Unfortunately the reading of candy labels is often pretty difficult because (1) the letters are of a tint or color that contrasts so poorly with the background color that one needs very good eyesight and more than normal patience to read the wording; (2) the printing is so small and crowded that the average woman who does not bring her glasses with her on her shopping expeditions cannot read the list of ingredients; or (3) the labels are printed on or under shiny, perhaps transparent, cellophane or on aluminum foil or other glossy plastic or metallic surface so that light reflections interfere greatly with readability. (Indeed, we have found that some labels under a cellophane wrap are actually impossible to read.) Sometimes a skilful package designer will find it possible to apply two or three methods of making a list of ingredients difficult to read.

Manufacturers seem to enjoy singular immunity from getting into trouble by their use of unreadable or unintelligible labeling. Although official regulations call for proper legibility with respect to the labeling of ingredients and net weight, a look over the stock of candy at any supermarket will disclose many ways in which the reading of labels is made almost out of the question for anyone except a person of exceptional curiosity and persistence. Perhaps when a label is hard to read, consumers would do well to choose another brand whose manufacturer treats customers with the

consideration that is due them. A manufacturer whose labeling practices may seem to be aimed at outsmarting consumers may also be too handy with questionable chemical additives to be among the best purveyors of food products.

Some labels are simple and clear

Some manufacturers not only write legible labels, but they make it a point to keep the ingredients down to a reasonable minimum, all strictly edible material. Thus we find *Virginia Lee* potato chips, distributed by the American Stores Company, contains only the following ingredients: "potatoes cooked in pure vegetable oil or shortening, salt added." Another brand of potato chips, the *Jupiter* brand nationally distributed by the Frito Co., however, presents a galaxy of ingredients whose composition and wholesomeness would be known to only a negligible proportion of consumers. In addition to the potatoes, vegetable oil, and salt, there are the following: "citric acid, propylene glycol, tricalcium phosphate, antioxidant added to preserve quality: butylated hydroxyanisole, butylated hydroxytoluene, propyl gallate." These chips, incidentally, are "guaranteed fresh"—perhaps not too strong a promise in view of the added "quality preservers." A good many consumers who will take the trouble to study labels would have little difficulty in deciding between two brands of potato chips which differ in such a marked degree in their statement of ingredients. Our readers will remember that the first two chemical preservatives, butylated hydroxytoluene and butylated hydroxyanisole just mentioned, disappeared from the label on *Grape-Nuts* breakfast food after an article in our *BULLETIN* called public attention to their presence and the fact that breakfast cereals should not need to be formulated with such emphasis on long life on the grocers' shelves.

It is evident that the consumer can to some extent protect himself in the selection of factory-prepared foods. He can buy those which have few or no ingredients other than the ones he is familiar with and does not mind consuming.

Some of our readers will wish to take the matter up with their city and state officials; reasonably satisfactory laws and regulations already exist in some jurisdictions, though very often they are not being enforced. Any consumer has a right to expect full information on local laws and regulations. If there is any difficulty, check with the mayor's office or the governor's secretary. Either of these can refer inquirers to the proper state or city agency to supply full information regarding laws (and regulations under them) and at least something about the status of their enforcement in any given town or city.



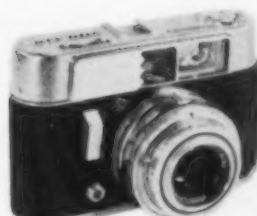
Kodak Retina III Automatic



Agfa Optima I



Ansco set



Voigtlander Vito CLR

35 mm. cameras

THERE has been in the recent past a decided trend toward automatic (aim and shoot) cameras and "semiautomatic" cameras with built-in exposure meters coupled to the lens aperture or shutter speed settings. For the person who has no wish to make a hobby of picture-taking, and who desires only to be able to press the shutter release, advance the film, and be assured of a passable picture, the widely heralded fully automated cameras may be a boon. We are certain, however, that for the majority of amateurs to whom photography is an interesting pursuit, and a challenge to their skill and knowledge, experience, and resourcefulness, the trend toward complete automation of picture-taking is one to be deplored. Indeed, it may well come about that when the market becomes saturated with automatic cameras and the older and better cameras have been sold to secondhand dealers and pawnbrokers, the high level of interest of enthusiastic amateurs in photography will actually decline.

Those of our readers who happen not to be greatly interested in photography may be surprised to learn that photography is now the nation's number one hobby, and that about 50,000,000 Americans take pictures more or less regularly, ten times as many as play golf, and several times as many as those who fish and hunt for recreation. These amateur photographers take two and a half billion pictures a year, and—surprising to many—women take about half of the pictures. It has been estimated that close to a billion dollars will be spent on this hobby alone, in 1961, for cameras, projectors, films, bulbs, and accessories; that 6 million new cameras and 8 million used ones will be sold this year, and 700 million flash bulbs will be used. The photo-finishing business alone amounts to \$200 million a year.

* * *

Reports on the following cameras will appear in an early forthcoming issue of CONSUMER BULLETIN: *Anscomark M*, semiautomatic 35 mm. cam-

era; *Minolta A5*, *Tower 57A*, both 35 mm. range-finder cameras; and *Exa Model II*, single-lens reflex camera.

Those who desire information on the many other cameras tested by CR should refer to the ANNUAL BULLETIN.

Automatic 35 mm. cameras

A. Recommended

Kodak Retina III Automatic (Eastman Kodak Co., Rochester 4, N.Y.) \$129.50. Case, \$14. Made in West Germany.

Schneider Retina-Xenar f/2.8 lens of 45 mm. focal length. *Compur* shutter with rated speeds of 1/30 to 1/500 sec., and B (no slow speeds). Synchronized for F and M bulbs at 1/30 sec. and electronic flash at all speeds. Double-exposure prevention with provision for making double exposures when desired. Built-in light meter controls lens opening, but cannot be used when camera is set for manual operation (a separate meter will be needed). When the camera is set for automatic operation, the *f* stop at which the camera is automatically set is shown in the exposure control window. Coupled range-finder of superimposed-image type. View-finder had bright line frame with extra frame lines to permit partial correction for parallax.

The camera is focused from 3½ ft. to infinity by turning the front element of the lens. Had a depth-of-field scale. Film is advanced and shutter cocked by single stroke of a lever. The exposure counter is set manually. A shoe is provided for attaching an accessory. An indicator on the rewind knob can be set to show the type of film in the camera.

For automatic operation, the letter "A" on the aperture control ring is set opposite an index mark. A second knurled ring is set for the ASA or DIN number of the film being used. (This setting was rather difficult to make.) The user selects the desired shutter speed, and when the camera is pointed at the subject, the stop opening is automatically adjusted for the needed exposure. If there is insufficient light or too much light, the word "stop" appears in the view-finder and the shutter is locked and cannot be operated. (The needle in the exposure control window will be against one of the red limiting brackets.) A worth-while feature is the provision for correcting exposures of scenes with consider-

able contrast, e.g., light objects against a dark background. The user moves the camera close to the subject and presses the exposure release about half way down. This sets the aperture for the proper exposure to suit the subject. The release is held in this position and the camera returned to the position from which the picture is to be taken. The release is then pressed down fully, to take the picture.

For manual operation and for taking flash pictures, the camera can be used in the same manner as any other camera that does not have a built-in exposure meter.

Quality of lens, good; it resolved 48 lines per mm. at center, 40 lines per mm. at edges, at full aperture. Shutter speeds were within permitted tolerances except the 1/500 sec. which was actually 1/300 sec. The automatic exposure feature operated satisfactorily.

Weight of camera, without case, 1 lb. 5 oz.

2

B. Intermediate

Agfa Optima I (Agfa Inc., 516 W. 34 St., N.Y.C.) \$69.95. Case, \$9.95. Made in West Germany.

Agfa Color Agnar f/2.8 3-element lens of 45 mm. focal length. *Prontor-Lux* shutter; rated speeds not shown, but range is said to be from 1/250 to 1/30 sec., and B. X synchronization. Double-exposure prevention. A built-in photoelectric exposure meter controls lens aperture. Focusing from 3¼ ft. to infinity is accomplished by turning the front element of the lens. (There was no range-finder; distances are estimated.) Three click stops are provided for "zone" focusing (close-ups about 6 ft., groups about 12 ft., distant scenes about 16 ft. to infinity). There was also a position for close-ups at 3¼ ft.

Film is advanced and shutter cocked by a single stroke of a lever. Camera has a retractable rewind knob, with a built-in indicator to show type of film in camera. (Indicator very difficult to set; and instructions covering it are not well expressed—a better diagram is needed.) A shoe is provided on the top of the camera for attaching an accessory such as a flash gun. View-finder had a luminous frame with extra frame lines to permit partial correction of parallax.

For automatic operation, a knurled ring on the lens mount must be set at "Auto"; a second knurled ring is then set to the ASA number of the film being used, automatically determining the shutter speed. The photoelectric meter reads the light reflection from the scene being taken and sets the stop opening for the exposure. The shutter release lever is then partially depressed until some resistance is reached. If at this point a green dot is seen in the view-finder, the exposure can be made by pressing the shutter release lever the rest of the way. If a red dot appears, it indicates there is insufficient light for a satisfactory exposure.

For time exposures, the setting is changed from "Auto" to B. For flash, the user sets the *f* stop, determined by dividing the guide number for the flash bulb and film combination by the distance to the subject (which must be estimated—no range-finder). All flash exposures are made at 1/30 sec., regardless of lens aperture.

Quality of lens, fair; it resolved 34 lines per mm. at center, 28 lines per mm. at edges, at full aperture. The automatic exposure feature worked satisfactorily. Weight of camera, without case, 1 lb. 7 oz.

1

Semiautomatic 35 mm. cameras, range-finder type

B. Intermediate

Anscoset (AnSCO, Binghamton, N.Y.) \$69.95. Case, \$10. Made in Japan.

AnSCO Rokkor f/2.8 coated lens of 45 mm. focal length. *Optimer Union Citizen* shutter with rated speeds of 1/1000 to 1/8 sec., and B. EVS numbers, 6 to 18, coupled to built-in exposure meter. (*f* stops are not shown on lens mount, a disadvantage.) X-M synchronization. Delayed-action release (self-timer). Coupled range-finder of superimposed-image type with single window for view-finder and range-finder. View-finder has luminous frame with extra frame lines to permit partial correction of parallax. Focuses from 3 ft. to infinity by rotation of front lens element. Folding rewind crank. Exposure counter is automatically reset to zero when back of camera is opened. Film is advanced and shutter cocked by a single stroke of a lever. Provision for double exposure. Depth-of-field scale. A shoe is provided for attaching an accessory such as a flash gun.

To operate, the film index ring on the lens mount is set to the ASA number of the film being used. Then a knurled ring which controls both shutter speed and aperture is turned until a pointer (located in a window at the top of the camera) coincides with the needle of the exposure meter. The shutter will then be set for the indicated exposure. While this method simplifies the making of pictures for the novice, it has the disadvantage that the user has no control over the selection of shutter speed or *f* stop and the picture must be taken at the speed and stop at which it is automatically set by use of the exposure meter. With more versatile cameras with built-in coupled exposure meters, if, for example, the indicated exposure is 1/60 at *f*/8 and 1/60 is too slow for the speed of movement of the subject being photographed, the user can change the settings to 1/500 at *f*/2.8 which gives the same exposure. This cannot be done with the *Anscoset*.

Elimination of *f* stop markings from the lens mount has also necessitated use of a rather complicated method for taking flash pictures. The distance of the camera from the subject, as indicated on the focusing ring, must be noted and this distance on another distance scale must be set opposite the letters A, B, C, D, or E, depending on the type of flash or flash bulb being used. For example, A and B are for electronic flash (A for distances more than 7 ft., B for distances less than 7 ft.), C and D are mostly for blue-coated bulbs, and E for regular bulbs such as numbers 5, 25, M5, or M-25. As the amount of light provided by electronic flash guns varies, allowances must be made for this by using not the indicated letter but one which by experience has been found to suit the particular flash gun used. This system may be simple or satisfactory for a person who uses only one type of flash bulb, and memorizes the letter to be used for that bulb.

Quality of lens, only fair; it resolved 40 lines per mm. at center, 24 lines per mm. at edges, at full aperture; at *f*/4.4, 40 lines per mm. at center, 28 lines per mm. at edges. The semiautomatic feature operated satisfactorily on evenly lighted scenes.

Weight of camera, without case, 1 lb. 9 oz.; case, 6 oz.

1

Voigtlander Vito CLR (Distributed by H. A. Bohm & Co., Chicago) \$89.50. Case, \$6.95. West Germany.

Voigtlander Lanthar f/2.8 coated lens of 50 mm. focal length. *Pronto LK* shutter with rated speeds of 1/500 to 1/15 sec., and B. X synchronization only. (M bulbs can be used at speeds of 1/30 and slower.)

Speeds and *f* stops are coupled to built-in exposure meter. Meter has incident light screen. Self-timer. Coupled range-finder of superimposed-image type with single window for view-finder and range-finder. Range-finder spot was too small, and gave insufficient contrast for convenient use. View-finder has bright line frame and is partially corrected for parallax. The camera is focused from 3.5 ft. to infinity by turning front element of lens. Depth-of-field scale was found inconvenient to use. Film is advanced and shutter cocked by single

stroke of a lever. Exposure counter indicates number of exposures remaining to be made. A shoe is provided for attaching an accessory. There is a retractable rewind knob with indicator to show type of film in camera.

To operate, the scale under the dial on the lens mount is set to the ASA or DIN number of film being used. The shutter is set to the speed desired, and the aperture ring is turned until a red pointer in a window at the top of the camera coincides with the needle of the exposure meter. If they cannot be made to coincide, a lower shutter speed must be selected.

Quality of lens, fairly good; it resolved 48 lines per mm. at center, 34 lines per mm. at edges, at full aperture. Shutter speeds were within permitted tolerances.

Weight of camera, without case, 1 lb. 5 oz.

2

Something new and efficient—and inexpensive—in small cameras

Twice as many mounted color pictures from a roll, at 35% lower cost per finished picture



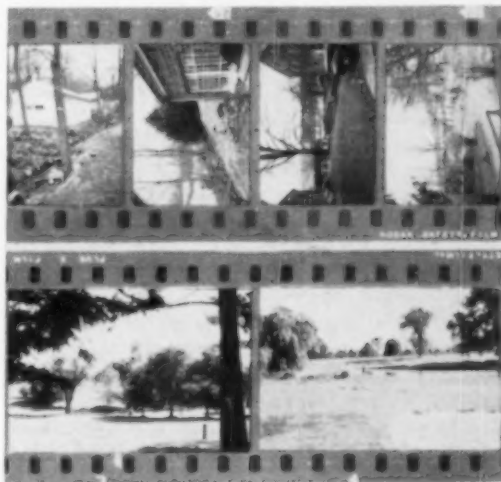
There have been a number of cameras available which provide for taking two pictures on one of the usual 35 mm. frames, but up to now such cameras have been strictly in the high-price brackets (*Alpa*, *Nikon*, \$300-\$400). Very recently Olympus, a Japanese maker, has brought out a surprisingly efficient and compact low-priced camera which uses 35 mm. film in standard cartridges and will take two good pictures on the same length of film as a single exposure with a regular 35 mm. camera or 40 pictures on the usual 20-exposure roll of black-and-white or color film. The camera is very small and light, easily carried in a man's shirt pocket or a woman's purse. The saving in cost by the use of the half-frame camera is very substantial; users can now take two or three pictures of the same scene when they wish to be sure they have it just right, at very modest cost.

Operation of the new camera is very simple; its lens is of good quality, and the pictures taken with it can be blown up to the usual $3\frac{1}{2} \times 5$ inch projection-print size with very satisfactory results or, if the photographs are color transparencies, they can be projected on the screen with any of the usual projectors.

It is too early to be certain, but there are indications that this camera may portend an important new development in miniature photography, for its pictures are about as good as those made with the regular 35 mm. cameras of good quality and very much better than can be gotten with the so-called ultra-miniature cameras (picture

size, $\frac{3}{8} \times \frac{1}{2}$ inch), which produce only mediocre enlarged prints and definitely poor color slides. In fact, there are few who take pictures who would be able to tell the difference between a picture blown up to 8×10 inches from a regular 35 mm. photograph and one from the $21/32 \times 15/16$ inch negative produced by the *Olympus-Pen* camera. Likewise, with pictures projected on the screen, there would be few who would find the picture shown from the larger 35 mm. transparency significantly better than the one projected through a slide with the half-size frame.

A point that may sometimes be important is that in projecting $21/32 \times 15/16$ inch transparencies, the projector must be about 50 percent further from the screen, to produce the same size picture, than with the regular full-frame $15/16 \times 1\frac{3}{8}$ inch slides. (The actual distance in any case



Relative sizes of pictures taken with the Olympus-Pen[®] (above) and a 35 mm. camera of the usual type.



will depend upon the focal length of the projection lens.) The amount of light available for illumination will be reduced about one half; it is desirable therefore to use a projector with an ample light output in projecting the half-frame transparencies. Where the projector illumination is somewhat inadequate in amount (as in 100- and 150-watt projectors, for example), the half-frame pictures will not be projected as brightly as some might wish, unless they are shown in a somewhat smaller size on the screen than is usual.

Consumers' Research will watch this development closely and will report on other cameras in this category if any become available that appear to be of exceptional value, in or near the price range of the *Olympus-Pen*.

The rotary lawn mower, enemy of consumers' safety

(The beginning of this article is on page 10)

the effects produced shall not cause a hazard to the operator or to bystanders.

A number of lawn mower manufacturers claim that all or nearly all of their mowers meet these specifications, and those that do not will be changed so that they will meet them in 1962. Thus it can be expected that eventually the specifications will have some influence in reducing the number of rotary-mower accidents.

In general, Consumers' Research believes the specifications, if supported in intelligent and effective fashion by mower manufacturers, and *dealers*, should tend to keep some of the worst, or so-called substandard mowers, off the market. Such mowers sell in very large numbers, for they are priced very low—often around \$30. Our main criticism, however, is directed against permitting a maximum blade tip speed of 21,000 feet per minute. On a mower with a 19-inch-diameter blade, this means an engine speed of 4200 revolutions per minute, or 3800 rpm. with a

A. Recommended

Olympus-Pen (Distributed by Scopas, Inc., 404 Park Ave., S., New York 16) \$29.50; case, \$3 extra. Made in Japan.

Olympus D Zuiko f/3.5 coated lens of 28 mm. focal length. *Copal* shutter with rated speeds of 1/200, 1/100, 1/50, 1/25, and B. Synchronized at up to 1/50 for F bulbs, and at 1/25 for M bulbs. View-finder of satisfactory type shows luminous frame with extra corner markings to permit partial correction of parallax. Focused from 2 ft. to infinity by rotation of entire lens in helical mount. No range-finder, and because of the great depth of the field of the short-focus lens, there would be little need for one. Folding rewind crank. Exposure counter reads number of exposures remaining on film. Film is advanced to a stop by turning a knurled wheel projecting from the rear of the case, and the shutter is cocked by the same action.

There is provision for double exposures. A shoe is provided for attaching an accessory, such as a flash gun or exposure meter. The finish is not of the best, but is fully satisfactory. Quality of lens, fairly good; resolved 68 lines per mm. at center, 56 lines per mm. at edges, at full aperture. (A lens of 28 mm. should resolve about 90 lines per mm.) Shutter speeds were within permitted tolerances. The instruction book furnished is well illustrated and adequate.

Size, 4 x 2 $\frac{3}{4}$ x 1 $\frac{1}{2}$ in. Weight, without case, 12 $\frac{1}{2}$ oz., only a little over half the weight of the usual 35 mm. camera.

Cost per black-and-white print, about 10c (same as for regular 35 mm. negatives); per color transparency, 10.4c (as compared with 16.4c for full-frame 35 mm. color slides).

21-inch-diameter blade. O. M. Scott & Sons in their efforts to design a safe (electric) lawn mower found that the right tip speed for clean cutting of grass was 8700 feet per minute; this corresponds to a 19-inch-diameter blade at 1750 rpm. Certainly a blade revolving at 1750 rpm. would be much less dangerous than one revolving at 3800 or 4200 rpm., as any objects thrown by the mower would be thrown at considerably lower speed.

If manufacturers of gasoline power mowers limited the maximum speed of the blade to 1750 rpm., it would mean they would have to equip their mowers with more powerful engines, and the mowers might then cost substantially more to make. A typical gasoline engine used on rotary mowers develops 2 $\frac{1}{2}$ horsepower at 3600 rpm.; this engine develops only 1.1 horsepower at 1800 rpm. It would take an engine rated at 4 $\frac{1}{2}$ horsepower at 3600 rpm. to produce 2 $\frac{1}{2}$ horsepower at 1800 rpm.

Improvements in the position of the consumer at law

IF THE picture on a new television receiver "rolls" or "tears" and cannot be held on the screen just two weeks after the 90 day warranty expires, or the oven timer of a new electric range fails to function from the start, or a new dishwasher is improperly assembled so that it starts its operation with a drying rather than a washing action, or the new station wagon has body leaks and rattles that can't be eliminated, the unlucky purchaser is likely to feel that "there ought to be a law" requiring the dealer to exchange the unsatisfactory appliance or car for one that will live up to the advertising claims.

Responsible dealers and even some discount houses will often make a conscientious effort to remedy serious deficiencies, but their efforts are usually not completely successful. In these days when so many products have increasingly complex mechanisms, there is a growing number of unhappy consumers, particularly those who have eliminated the warranty fee in their desire to get a low purchase price, who pay out good money for a high-priced item that never gives satisfactory service.

Such folk will be interested to learn that there probably *are* laws that will enable their lawyers to secure redress in certain cases; it appears that the courts are beginning to show trends in judicial decisions that lean toward providing at least some protection for the purchaser. One outstanding decision of this type was rendered in September 1955 by Judge C. Thomas Schettino, in Superior Court of New Jersey, Chancery Division, Monmouth County. The case in question involved a new station wagon which from the first day of its purchase had a number of rattles and other defects which the dealer worked in vain to remedy over a period of several months. The purchaser finally brought suit claiming that he should have had a new car in view of the warranty's claim that the dealer was obligated to make "good. . . the defective part or parts. . . within the warranty period, without charge for replacement labor." Judge Schettino found the claim justified and ordered the dealer to return the full purchase price to the purchaser, even though the car had been driven for 10 months.

In another case, the Michigan Supreme Court reinstated a suit for damages in favor of a purchaser who had lost a leg in an accident due to faulty brakes of the automobile he was driving. The power brakes on that particular model car were known to be faulty that year. Dealers had been instructed by the manufacturer to make re-

pairs on the brake systems "without notice to the owners and even if there were no complaints about the brakes," but, according to the record, no warning was given the owners. The court ruled against the manufacturer on the ground that he had not warned "those into whose hands they had placed this dangerous instrument and whose lives (along with the lives of others) depended upon defective brakes which might fail without notice."

Legal authorities report a rise in the number of product liability cases in courtrooms throughout the country, involving not only the fulfillment of warranties but of "implied warranties" as well. There was an Ohio Supreme Court decision in the case of a woman who sued for \$30,000 damages on the charge that a permanent-wave company advertised its wave solution as "very gentle." She claimed that she lost almost all her hair from the use of the product. By its decision in her favor the court in effect ruled that if a manufacturer guarantees his product in his advertising to have certain qualities, he can—if his customer is harmed—be held legally accountable if it does not measure up to the advertising claims.

Another outstanding decision from the New Jersey Supreme Court is the case of *New Jersey Mortgage and Investment Co. v. Dorsey*, an installment buying case, in which the court held "that the defense of fraud in the factum [fraud in the making or creation of the instrument] is available against any holder of a negotiable instrument provided the maker was not negligent in failing to ascertain the actual character of the instrument."

The Wall Street Journal reports that the New Jersey Supreme Court in reviewing recent product liability developments stated that they revealed "a trend and design in legislative and judicial thinking toward providing protection for the buyer." One observing lawyer pointed out "As manufactured products have become more and more complex. . . it would appear to be almost inevitable that our courts would disregard the traditional doctrines of negligence and implied warranty. Rather than adopting a new point of view, it appears to me that the recent decisions actually indicate a return to the old Common Law rule of *res ipsa loquitur*—i.e., that the result speaks for itself."

The volume of consumer cases has become so large that there is an organization of lawyers who specialize in this type of problem. Called the National Association of Claimants' Counsel of America, its membership includes some 7000

lawyers throughout the country who work for clients who have suffered losses or injuries caused by manufactured products. Such cases are, of course, somewhat different from those involving the purchase of a "lemon," a product that is defective from the start and fails to render the advertised service. The N.A.C.C.A. lawyers are concerned with product liability where there is injury from the normal use of a product. They maintain a Products Liability Exchange which supplies members with information about similar cases ranging from unpleasant side effects from a tranquilizer and skin irritation from using a particular deodorant to airplane crashes and a suit filed by relatives of a victim of lung cancer which was claimed to have been caused in part by cigarette smoking.

Increased use of food additives and household insecticides is expected to cause a rise in the number of product suits, because in some cases these

substances may cause allergic reactions. One attorney believes that the technique of advertising many items will be altered because of the volume of product suits. Enthusiastic claims for the benefits of a product may need to include warnings of possible side effects by those who may be allergic to it. Manufacturers may also be persuaded of the wisdom of testing and inspecting products more thoroughly before releasing them to the retailers and dealers.

It is good to know that the consumer's welfare is receiving some attention from the courts, but to those who hope to obtain a quick redress of some unhappy experience, a word of warning is in order. Legal procedures are time-consuming, long-drawn-out (in most states), and costly, and the chances of losing one's case are great. It is usually wiser for the layman to obtain a satisfactory adjustment of his grievance by other means and resort to the courts only if all other methods fail.

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A utomobiles, 1961.....		hams, excessively watered.....	May...3	Ranges, electric—built-in ovens and	
Chevrolet 6 and V-8, Dodge Dart,		sugar, enemy of good		counter-top units*.....	Apr...18
Ford 6 and V-8 Pontiac*.....	Mar...11	nutrition*.....	Feb...10; Mar...39	Record changers, automatic*.....	Feb...22
A utomobiles, 1961 compacts.....		G arbage disposal units*.....	Mar...6	Records, phonograph, ratings*.....	each issue
Annual report*.....	May...6	Gardeners, home, hand sprayers for*.....	May...2	S ewing machines, straight-stitch*.....	Mar...18
Buick Special, Dodge Lancer,		timely advice to*.....	May...32	zigzag*.....	Apr...2
Rambler American*.....	Jan...10	Guarantees.....	May...33	Shoes, children's*.....	May...12
Corvair, Ford Falcon, Oldsmobile		H air bleach, peroxide, warning.....	Mar...4	Silver polishes, tarnish preventive*.....	Jan...6
F-85, Valiant*.....	Feb...14	H air dryers*.....	Jan...16	Snow and ice removal, chemicals for*.....	Feb...30
Comet, Pontiac Tempest, Rambler		Heart disease, leaflet on.....	Apr...4	Soils, effects on food quality*.....	Jan...20
Classic 6, Studebaker Lark 6*.....	Apr...6	patients having dental work,		Sprayers, hand, for the home gardener*.....	May...2
A utomobiles, greasing.....	Mar...2	caution.....	May...37	Stainless-steel flatware*.....	Feb...18
rear-end collisions with trucks.....	May...37	reducing fat consumption.....	May...3	Stylus pressure gauge*.....	Feb...25
spark plugs, selecting right type*.....	Jan...2	Heating the home with electricity*.....	Jan...24	Sugar, enemy of good	
windshields, cracked, temporary		Highways, rosebushes, aid to safety.....	May...3	nutrition*.....	Feb...10; Mar...39
repair.....	May...4	I nsecticide vaporizers, Lindane.....	May...31	Suntan preparations, problems.....	Apr...38
B elts, contour, cleaning.....	May...3	Insects, stings of, danger.....	May...38	T ooth, anti-decay agents, quest for.....	Apr...3
Bottle warmers, baby, automobile*.....	May...39	Insurance for photographic equipment.....	May...30	Toaster, electric, new*.....	Apr...39
C ameras, pitfalls in taking pictures*.....	Mar...23	L awns, crabgrass, control of.....	Apr...37	Tools, shaping, new*.....	Apr...16
Cements, epoxy-resin*.....	Feb...28	grass seed, buying.....	Mar...4	Trailers, mobile homes*.....	Feb...6
Chairs, rocking, therapeutic value.....	May...4	Lenses, contact, bifocal*.....	Jan...14	Trampolining, hazards.....	Apr...3
Clips for fastening plastic bags		Lights, electric, night*.....	Feb...2	TV sets, safe use in schoolrooms*.....	Mar...26
for freezer storage.....	Apr...38	Lipstick stain removal.....	Mar...37	service policy, a company's new.....	May...37
Comforters, Acrilan, care.....	Feb...38; Apr...32	Luminescent devices and reflecting		tuning knobs, caution.....	May...4
Consumer Frauds Bureau, New Jersey's.....	Apr...32	materials*.....	Feb...2	V aporizers, Lindane insecticide.....	May...31
Consumer preference for quality goods.....	Apr...4	M attresses, foam.....	Mar...33	Washing machines, automatic*.....	May...16
Consumers, do they buy many things		support for backache sufferers.....	Apr...4	Weight control, booklet on.....	Apr...37
they don't need?.....	Mar...32	Medicine, antacid tablets, caution.....	Apr...3	liquid formula diet, warnings.....	May...37
Contact lenses, bifocal*.....	Jan...14	Mildew, preventing and removing.....	May...4	Z ipper, new design.....	May...38
D iets, booklet on weight control.....	Apr...37	Milk, possible cause of sudden infant			
liquid formula diets, warning.....	May...37	deaths in cribs.....	Mar...38		
Disposers, food waste*.....	Mar...6	Mobile homes*.....	Feb...6		
Drum sets, practice, quiet type.....	Apr...4	Motion pictures, ratings*.....	each issue		
Dryers, hair*.....	Jan...16	violence, decadence emphasized*.....	Jan...33		
E lectric home heating*.....	Jan...24	Mouthwashes and lozenges, claims.....	May...3		
Eyeglasses, bifocal contact lenses*.....	Jan...14	O range juice, standards.....	Mar...3		
Eyes, artificial, buying.....	Mar...2	Ovens, electric, built-in*.....	Apr...18		
F ilm, color, negative*.....	Jan...39	P hotography, pitfalls*.....	Mar...23		
Flashlights, rechargeable*.....	Feb...39	Plants, house.....	Feb...37; Mar...3		
Flooring, rubber tile, maintenance.....	May...31				
Flowers, cut, care.....	May...4				
Food and Drug Admin., open letter to*.....	May...27				

Entries marked () are longer or more comprehensive items.

NOTE: Back issues of CONSUMER BULLETIN (1960-1961) are available at 40 cents each; 1959 and earlier issues, 50 cents each. Thirty popular reprints are listed on p. 24 of this issue.

Phonograph Records

BY WALTER F. GRUENINGER

Please Note: Stereo records are indicated by the symbol Ⓢ. Ratings (AA, A, B, etc.) apply first to the quality of interpretation, second to the fidelity of the recording. Most performances are available on both stereo and regular LP records.

Ⓢ**Bach:** *Cantatas Nos. 12 and 29.* Davrath, Dermota, Berry, Rössl-Majdan with the Wiener Kammerchor. Vienna State Opera Orchestra under Wöldike. Bach Guild BGS 5036. \$5.95. There's a surprise in store for those who know the *Prelude to the E Minor Partita* for solo violin. In *Cantata No. 29*, Bach uses this music on the organ with ejaculations from trumpets and drums. The performers do well enough, though not remarkably well. Luxurious sound. **AA**

Bach: *Komm Jesu Komm, Lobet den Herrn alle Heiden, Der Geist Hilft, Fürchte Dich Nicht.* Soloists, Chorus and Instrumentalists of Westphalian Kantorei under Ehmann. Cantate CAN 1203. \$5.95. Four motets of moderate interest, sung exquisitely in a lively studio. Of its kind, far better than average. Cantate disks are pressed on quiet surfaces and packaged in Germany. They are distributed by Sacra-Disc Music Society, 250 W. 57 St., New York 19, N. Y. A first rate product. **AA**

Ⓢ**Bizet:** *Symphony in C Major & Lalo: Symphony in G Minor.* Orchestre National de la Radiodiffusion Française under Beecham. Capitol SG 7237. \$5.98. The early Bizet is a gem which the Lalo cannot match. Beecham is in fine fettle, with phrasing and nuance in his matchless manner. The world is the poorer as a consequence of his death. The orchestra plays expertly. Richly recorded. **AA**

Ⓢ**Cimarosa:** *Il Maestro di Cappella & Mozart: Concert Arias.* Fernando Corena (bass). London OS 25219. \$5.98. In these seldom heard pieces Corena sings with a full, pleasing voice, but too little color. Hence, it is enjoyable, but short of the possibilities and the stature of the music. Good balance between soloist and orchestra. Well recorded. **A**

Ⓢ**Coates:** *London Suite and London Again Suite.* Eric Johnson and His Orchestra. Westminster WST 14132. \$4.98. Essentially graceful yet dignified program music that turns up at Pop concerts. Musically described are such spots as Covent Garden, Westminster, Knightsbridge, Mayfair. Gratifying. Very well performed and clearly recorded. **AA**

Ⓢ**Dvorák:** *Symphony No. 5.* NBC Symphony under Toscanini. LME 2408. \$4.98. Victor offers an "electronic stereo reprocessing of this historic recording." Victor LM 1788, a mono disk which has been in the catalog for many years, served as the source material which was turned over to an engineer to enhance stereophonically. What he has come up with, on the whole, is a slight improvement though not so boldly stereophonic that it equals the best of that system of reproduction. The "New World" Symphony, conducted by Toscanini, has been an exciting musical experience for years. It always sounded good, for the engineering was about the best ever given Toscanini and certainly he deserved it, though it seldom came his way. With this enhancement, though there are a few points of loss, the new sound offers better directional sound and reverberation, which leads me to prefer it, overall, to any other "New World" recording. . . If the sound pleases you, investigate other great Toscanini recordings which have been "stereo processed," though less successfully—"Pictures at an Exhibition," "Fountains and Pines of Rome." **AA**

Ⓢ**Fauré:** *La Bonne Chanson, Poème d'un Jour,* and other songs. Gerard Souzay (baritone). Epic BC 1122. \$5.98. Fauré's songs deserve more frequent hearing. Their understatement may discourage initially those who are accustomed to the drama of Schubert, but many of the songs are masterpieces. Souzay is the ideal interpreter. He possesses style, the dry voice so often associated with French singing, and interpretive insight. But you'll best appreciate these songs when you hear them a few at a time. Impressive recording. **AA**

Ⓢ**Gilbert and Sullivan:** *The Pirates of Penzance.* Lewis, Morison, Milligan, Baker, Glyndebourne Festival Chorus and Pro Arte Orchestra under Sargent. 4 sides, Angel 3609 B/L. \$11.96. The recording of this popular G and S operetta suffers only from the omission of the dialogue. Otherwise, the disk is quite extraordinary. . . better than London OSA 1202. It is supremely musical, with Elsie Morison and Richard Lewis contributing mightily, and George Baker as the Major-General almost surpassing them. Praise be, the chorus sounds youthful, and the conducting is sprightly. Marvelous engineering, too, with just the right reverberation. **AA**

Ⓢ**Handel:** *Julius Caesar* (Excerpts). Seefried (soprano) and Fischer-Dieskau (baritone) with the Radio Symphony Orchestra of Berlin under Böhm. Deutsche Grammophon SLPM 138637. \$6.98. What a fine idea. . . arias by Cleopatra and Caesar from a Handel opera not likely to be seen hereabouts. Of the two soloists, Fischer-Dieskau comes out better than his companion who finds the high passages taxing. Solid, round sound. **A**

Ⓢ**Handel:** *Loco in Bath.* Royal Philharmonic under Beecham. Angel 35504. \$5.98. Beecham has arranged 22 movements from Handel works to form a ballet. Ilse Hollweg, soprano, sings a Serenade a No. 20. The total effect—beef and potatoes music, exceedingly satisfying. Beecham's Handel belongs with the many admirable things he did for music. The recording, fortunately, matches the high quality of the music and the interpretation. **AA**

Ⓢ**Handel:** *Organ Concerti* (Op. 4, Nos. 3, 4, 5, 6). Köhler (organ) with the String Orchestra of the Leipzig Gewandhaus Orchestra under Thomas. Epic BC 1103. \$5.98. Handel used these pieces principally as interludes between sections of an oratorio. He played the organ, which Köhler does here, improvising lavishly, to the joy of his listeners. Köhler is an expert organist, but without a score it is difficult to tell how much he improvises. The effect is thoroughly enjoyable, thanks to soloist, orchestra, and engineers. **AA**

Ⓢ**Ives:** *Symphony No. 2.* N. Y. Philharmonic under Bernstein. Columbia KS 6155. \$6.98. Bernstein calls Ives our country's first really great composer, and this season this work has had more than usual attention and praise. So listen and form your own opinion of a symphony completed by this New Englander in 1902. Since Bernstein so passionately believes in this music, he conducts with conviction and with grace. The recording, a bit harsh, stands up in other respects. **AA**

Ⓢ**Liszt:** *Hungarian Rhapsodies, La Campanella, Liebestraum,* etc. Ivan Davis (piano). Columbia MS 6222. \$5.98. This 28-year-old Texan won the grand prize of the first Franz Liszt Competition in New York City. No wonder. He plays as though he had 15 fingers! Good color, too. Quite an unusual Liszt disk. Superb recording. **AA**

Ⓢ**Mozart:** *Piano Concerto in A Major* (K 488) and *in C Minor* (K 491). Wilhelm Kempff (piano) with the Bamberger Symphoniker under Leitner. Deutsche Grammophon SLPM 138645. \$6.98. A work of art, indeed! Two of Mozart's finest piano concertos played by a soloist and orchestra whose performances call for superlatives. Excellent recording with plenty of definition. Good balance between soloist and orchestra. **AA**

Ⓢ**Mussorgsky:** *Pictures at an Exhibition and A Night on Bald Mountain.* Vienna State Opera Orchestra under Golschmann. Vanguard SRV 117 SD. \$2.98. Another of Vanguard's low-priced demonstration releases. Crisp and clear sound, particularly important in this colorful music. But bland performance. **B**

(Continued on page 34)

⑧**Schumann: Lieder** from the Spanish and from "Myrtle." Fischer-Dieskau (baritone). Deutsche Grammophon SLPM 138655. \$6.98. One of the most satisfying disks I have heard this month. This artist knows how *Lieder* should be sung and he has the voice to do it. In these Schumann songs, which include such favorites as "Der Hidalgo," "Widmung," "Der Nussbaum," "Sehnsucht," he conveys mood contrast, colors his voice, and enunciates very clearly. Is there a living male who can equal him? At the piano—the able Jorg Demus. Excellent sound. . . This team does equally well with Dvorák and Brahms on DG 138644. AA AA

⑧**Wagner: The Flying Dutchman.** Fischer-Dieskau, Schech, Wunderlich, etc., and the Chorus and Orchestra of the German State Opera under Konwitschny. 6 sides, Angel 3616. C/L. \$17.94. This early Wagner opera depends for its success on the doomed Dutchman sung here by Fischer-Dieskau and on Senta, the maiden who saves him, sung by Marianne Schech. Fischer-Dieskau sings more expressively than any other Dutchman I have heard. Some may find him fussy. Marianne Schech contributes a little less than expected, for she does not sound as youthful as she should, and she strains in the loudest passages. Yet, it is a minor point. All the other roles pass muster, and Konwitschny conducts with assurance and finesse. Thrilling choral numbers. The engineers employ stereo with telling effect. Altogether a commendable set. A AA

⑧**Bongos, Reeds, Brass.** Vol. 2. The Big Band of Harry Zimmerman. Hi Fi Records L 1102. \$5.95. Exotic sounds to please the man who wants to show off his hi-fi rig. They're built in "Under Paris Skies," "Indian Summer," "Sunday," "Blue Tango," and similar tunes. Mostly subtle and pleasing arrangements. Very well recorded. AA AA

⑧**Dance to the Music of Lester Lanin and His Orchestra.** Epic BN 570. \$4.98. Enjoyable for dancing or listening. With hardly a stop for breath, this society orchestra plays 32 tunes from "The Song is You," "The Sound of Music," "Carousel Waltz," etc. Strings come out of the left speaker, brass out of the right, other instruments in between. The strings could have been recorded more clearly. AA A

⑧**Everybody Dance with Jan Garber and His Orchestra.** Decca DL 74066. \$4.98. Jan Garber's been around for a long time yet this album ranks with the best he's done. "It Had to be You," "Baby Face," "When I Fall in Love," "Very Warm," "High Society," etc., played in the familiar bouncy Garber style which features smooth, soft brass—generally saxophones—reinforced with trumpets in the repeats and fortissimo passages. AA AA

Face to Face. 4 sides, Decca DXD 166. \$7.96. One disk presents popular Decca recording artists in some of their most fetching numbers, taken from the archives. The other disk presents interviews by Pete Martin with these artists: Mary Martin talks entertainingly about how she got her first big part; Perry Como discusses rock and roll. This disk is not likely to hold interest, after repeated hearings, so well as the first disk on which Bing Crosby sings "Swinging on a Star"; Ethel Merman does "The Hostess with the Mostess"; Danny Kaye, "The Lobby" number, etc. Variable recording. AA B

Fiesta Espanola. Los Churumbes de Espana. Capitol T 1484. \$3.98. Spaniards who have appeared in Miami and Las Vegas night spots, as well as in the Spanish speaking countries, offer two sides of enchanting entertainment. They hold your interest from beginning to end. Around a dozen performers in the company. Satisfactory recording. AA A

⑧**I Remember Hal Kemp.** John Scott Trotter and His Orchestra. Decca DL 74076. \$4.98. This is the style of the Hal Kemp band which played to the Coke-buying public of the '30s. Trotter was the arranger in those days. It's all a little dated but likely to awaken memories. Included are such tunes as "Got a Date with an Angel," "A Heart of Stone," "Strange," "All Through the Night." Some choral passages in unison. Wide stereo separation but the sound seems a little muffled. AA A

⑧**Living Strings Play Music of the Sea.** Orchestra under Douglas. RCA Camden CAS 639. \$2.98. Pleasant mood disk superior to most. An orchestra plays special arrangements featuring strings of "Ebb Tide," "Banana Boat Song," "Jamaica Farewell," "Come to Capri," "Come Back to Sorrento," "Around the World," and similar tunes. All welcome despite the sound of the pounding sea between numbers. Spaciously recorded. AA AA

Music of Dietrich Buxtehude: Vol. I. Musica Sonora Ensemble under Nolte. Musica Sonora Disc (not numbered). \$4.98. Dr. Nolte conducts the ensemble, with vocal soloists and chorus, in "Singet Dem Herrn" and "Magnificat" which are among Buxtehude's best known works, and a harpsichordist plays *Suites 14 and 19*. The group of young professionals stems from Chicago. They perform adequately, but more experienced artists, particularly vocal soloists, have showed there's more brilliance in the music than brought out here. B A

New Shows in Town—1961. Percussion Unlimited. Medallion ML 7515. \$4.98. Tunes from "Wildcat," "Do Re Mi," "Irma la Douce," "Tenderloin," etc., played by an orchestra which emphasizes percussion, to fit today's demand. Unusual arrangements almost carry the day but the sparseness of worthy tunes in the new shows sets up serious obstacles. Well played and acceptably reproduced. AA A

Portrait of Spain. Julio Martinez Oyangueren (guitar). Decca DL 4033. \$3.98. What a pleasure to hear seductive classic Spanish music spanning four centuries. Unique, sensitive is the style of this famous guitarist from Uruguay. Anyone who enjoys this repertoire is likely to find this disk an asset in his library. First class recording. AA AA

Roger Williams Invites You to Dance. Kapp KL 1222. \$3.98. Tasteful, commendable arrangements of "I Get a Kick Out of You," "Half as Much Cha-Cha-Cha," "That Old Black Magic," "All of Me," and similar tunes. Fairly well recorded. Principally piano solo backed by orchestra. AA A

⑧**Serata Napoletana.** "I Musici." Epic BC 1119. \$5.98. Around 1860 in Naples the aristocracy invited friends to hear music like this: a "Concerto Grosso" by Scarlatti, a "Cello Concerto" by Leo, a "Concerto for Strings" by Durante, a "Concerto for Flute" by Pergolesi. It's pleasant music appropriate to a social gathering which desired some tunes between conversations. The orchestra and soloists known as "I Musici" perform splendidly and they are brightly recorded. AA AA

⑧**The Music of Greece.** Peter Kara and His Orchestra. Coral CRL 757348. \$4.98. Symphony players I know are among those who seek out juke boxes in Greek restaurants to hear exotic instruments perform this unique music, in which fascinating rhythms play so large a part. Principally Greek dances. It adds up to a diverting, exciting off beat disk. Expert players and lifelike recording. AA AA

* * *

Great Recordings of the Century. In this series Angel Records has released several LP's that deserve the attention of those who collect disks of great singers. Tito Schipa sings arias and songs on COLH 117 clearly showing why around 1930 he was one of the world's foremost tenors. Surprisingly good engineering. . . Battistini offers an opera recital on COLH 116. Between 1903 and 1923 he recorded over 100 sides so there is a wide choice for Angel. The engineering, of course, doesn't match that of the more recent Schipa, but there is enough here to suggest why Battistini was hailed as the leading baritone of his day. . . Eva Turner, one of Britain's foremost singers, gives us six arias on COLC 114 and Sir Thomas Beecham conducts the orchestra in four of them. All were recorded in 1928. Miss Turner is an advocate of the full voice, the belt-it-out school—which helps explain why nearly always she was recorded from some distance. . . Of these disks, my favorite is Schipa's for his was a sensitive, polished voice with real style. I have had some of his performances on 78 rpm. disks for many years—and they have given me much pleasure. Each disk, \$5.98.

Ratings of Current Motion Pictures

THIS SECTION aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 17 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Boxoffice, Cue, Daily News (N. Y.), The Exhibitor, Films in Review, Joint Estimates of Current Motion Pictures, Motion Picture Herald, National Legion of Decency, New York Herald Tribune, New York Times, The New Yorker, Parents' Magazine, Release of the D. A. R. Preview Committee, Reviews and Ratings by the Protestant Motion Picture Council, The Tablet, Time, Variety (weekly).

The figures preceding the title of the picture indicate the number of critics whose judgments of its entertainment values warrant a rating of A (recommended), B (intermediate), or C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Ansco, Eastman, Technicolor, Trucolor, Warner Color, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fant—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
sci—science fiction
soc—social-problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		A	B	C	
2	11	—	Absent-Minded Professor, The <i>com</i> AYC	—	7	8	Cry for Happy <i>war-com-c</i> A
—	1	2	Ada <i>dr</i> A	—	—	3	Curse of the Werewolf (British) <i>mel</i> A
—	—	—	Adventure, The (see L'Aventura)	—	1	2	Date Bait <i>soc-mel</i> AY
—	3	4	All Hands on Deck <i>mus-com-c</i> AYC	—	1	2	Day of the Gun, The <i>nov-c</i> A
1	7	3	All in a Night's Work <i>com-c</i> A	—	7	2	Days of Thrills and Laughter <i>com</i> AYC
—	2	1	Amazing Mr. Callaghan, The (French) <i>mys-mel</i> A	—	—	3	Dead One, The <i>cri-mel</i> A
—	3	4	Amazing Transparent Man, The <i>sci-dr</i> AY	—	2	1	Deadly Companions, The <i>dr</i> A
—	1	2	Angel Baby <i>dr</i> A	—	7	3	Desert Attack (British) <i>war-dr</i> AYC
2	8	1	Angry Silence, The (British) <i>dr</i> A	—	1	3	Devil's Commandment, The (French) <i>cri-mel</i> A
—	3	3	Another Sky (British) <i>dr</i> A	—	4	2	Dog, a Mouse, and a Sputnik, A (French) <i>com</i> A
—	1	3	Atlantis, the Lost Continent <i>sci-c</i> A	—	3	2	Dondi <i>dr</i> AY
—	1	2	Atlas (British) <i>adv-c</i> AY	—	3	—	Escape to Berlin (German) <i>dr</i> AY
—	2	1	Back Street <i>dr-c</i> A	—	4	8	Esther and the King (Italian) <i>adv-c</i> A
2	3	1	Belles and Ballets (French) <i>doc-c</i> AY	4	7	4	Exodus <i>nov-c</i> AY
1	3	—	Bernadette of Lourdes (French) <i>biog</i> AYC	—	3	1	Eye for an Eye, An (French) <i>dr-c</i> A
—	1	2	Big Bankroll, The <i>cri-mel</i> A	—	3	—	Fabulous World of Jules Verne, The <i>adv</i> AY
1	10	—	Big Deal on Madonna Street (Italian) <i>cri-com</i> AY	—	10	3	Facts of Life, The <i>com-c</i> A
—	2	1	Big Gamble, The <i>dr-c</i> A	—	3	1	Fanny <i>mus-dr-c</i> A
—	1	2	Big Wave, The (Japanese) <i>dr</i> A	—	2	1	Ferry to Hong Kong (British) <i>mel-c</i> AY
—	2	1	Bimbo The Great <i>mel-c</i> AY	—	5	3	Fever in the Blood, A <i>dr</i> A
—	6	2	Black Sunday (Italian) <i>cri-dr</i> AY	—	1	2	Five Golden Hours (British) <i>com</i> A
—	3	—	Black Tights (British) <i>mus-dr-c</i> A	—	2	5	Five Guns to Tombstone <i>wes</i> AY
—	2	2	Blood and Roses (Italian) <i>dr-c</i> A	—	10	1	Flaming Star, The <i>mel-c</i> AY
—	8	3	Blueprint for Robbery <i>cri-dr</i> AY	—	3	—	Four Desperate Men (Australian) <i>mel</i> AY
—	3	2	Bowl of Cherries, A <i>mus-fant</i> AY	—	5	5	Foxhole in Cairo (British) <i>war-mel</i> A
—	2	1	Breakfast at Tiffany's <i>dr-c</i> A	—	6	3	French Mistress, A (British) <i>com</i> A
—	3	7	Breathless (French) <i>cri-dr</i> A	—	4	2	Frontier Uprising <i>wes</i> AYC
—	3	—	Bridge, The (German) <i>dr</i> A	2	7	3	General Della Rovere (Italian) <i>war-dr</i> A
—	1	4	Caltiki, The Immortal Monster (Mexican) <i>sci</i> A	—	7	5	G.I. Blues <i>mus-com-c</i> AY
—	4	2	Canadians, The <i>dr-c</i> AY	—	2	1	Gidget Goes Hawaiian <i>com-c</i> A
—	2	3	Carmen Comes Home (Japanese) <i>com</i> A	—	—	3	Girl in Lovers' Lane, The <i>mel</i> A
—	3	8	Carthage in Flames (Italian) <i>mel-c</i> A	—	—	3	Girl in Room 13 <i>mys-mel-c</i> A
1	8	6	Cimarron <i>nov-c</i> AY	—	3	9	Go Naked in the World <i>nov-c</i> A
—	6	6	Cinderella <i>mus-fant-c</i> AY	—	2	5	Goddess of Love (Italian) <i>mel-c</i> A
—	6	6	Circle of Deception (British) <i>war-dr</i> A	—	6	4	Gold of the Seven Saints <i>wes</i> AY
—	3	1	Code of Silence <i>cri-mel</i> AY	—	2	8	Goliath and the Dragon (Italian) <i>adv-c</i> A
—	—	3	Cold Wind in August, A <i>mel</i> A	—	7	3	Gorgo (British) <i>adv-c</i> AYC
—	2	1	Come September <i>com-c</i> A	1	3	—	Great Day, The (Spanish) <i>dr</i> AYC
—	5	3	Confess, Dr. Korda! (German) <i>cri-mel</i> A	—	10	3	Great Imposter, The <i>dr</i> A
—	2	1	Counterfeit Traitor, The <i>war-dr-c</i> AY	—	2	1	Green Helmet (British) <i>mel</i> AY
—	—	4	Crazy for Love (French) <i>com</i> A	—	2	1	Guns of the Navarone, The <i>war-dr-c</i> AY
—	4	5	Crowning Experience, The <i>propaganda-c</i> A				

A	B	C		A	B	C	
—	3	—	Half Pint, The.....com AY	—	1	2	Portrait of a Sinner, A (British)....dr A
4	8	2	Hand in Hand (British).....dr AY	—	2	2	Posse from Hell.....wes-c AY
—	3	6	Herod the Great (Italian).....mel-c A	—	1	2	Price of Silence, The.....mys-mel A
—	2	2	Heroes Die Young.....war-mel A	—	2	1	Prisoners of the Congo.....mel-c A
—	2	1	High School Caesar.....mel AY	—	3	—	Queen's Guards, The (British)....dr-c AY
—	3	1	Hippodrome (German).....mel-c A	2	4	—	Question 7.....propaganda-dr AY
1	6	1	Home is the Hero (Irish).....dr AY	—	6	4	Rachel Cade (British).....dr-c A
3	7	3	Hoodlum Priest, The.....soc-dr AY	4	5	2	Raisin in the Sun, A.....dr AY
—	3	—	Horse with the Flying Tail, The.....dr-c AY	—	3	2	Return to Peyton Place.....dr-c A
—	—	3	How to Make a Monster.....mel A	—	2	1	Revolt of the Slaves.....dr-c A
—	3	—	It Happened in Rome (Italian)....com-c A	—	3	1	Rocket Attack, U.S.A.....war-mel AY
—	2	1	It Takes a Thief (British).....cri-dr A	—	3	—	Romanoff and Juliet.....dr-c AY
—	3	4	Jazz Boat (British).....mus-cri-dr A	—	5	3	Rue de Paris (French).....dr A
—	3	2	Konga.....sci-c AY	—	2	1	Rules of the Game (French).....dr A
—	—	—	La Dolce Vita (see Sweet Life, The)	1	4	8	Sanctuary.....dr-c A
—	1	2	Ladies' Man, The.....com A	—	3	—	Sand Castle, The.....fan AY
—	2	4	L'Avventura (Italian).....dr A	1	7	3	Saturday Night and Sunday Morning (British).....dr A
1	9	2	League of Gentlemen, The (British).....cri-mel AY	—	6	2	Savage Innocents, The (British)....doc-dr-c A
—	7	1	Left, Right, and Center (British)....com A	—	2	1	Season of Passion (British).....dr A
—	2	8	Legions of the Nile (Italian).....mel-c A	—	2	6	Secret of the Purple Reef.....mys-mel-c AY
—	3	—	Life and Loves of Mozart, The (German).....mel-c A	—	3	1	Secret Partners, The (British).....mys-mel AY
—	3	—	Little Angel (Mexican).....dr-c AY	—	3	1	Secret Ways, The.....mys-mel A
—	3	2	Little Shepherd of Kingdom Come.....dr-c AY	—	3	—	See Naples and Die (Italian).....dr A
—	4	3	Long Rope, The.....wes-c AY	—	3	—	Serengeti Shall Not Die.....doc-c AY
—	2	4	Look in Any Window.....soc-dr A	—	3	1	Shadows.....soc-dr A
—	6	5	Love and the Frenchwoman (French).....dr A	—	2	9	Shakedown, The (British).....cri-mel A
—	5	5	Love Game, The (French).....com A	—	1	2	She Walks by Night (German).....mel A
1	3	1	Macario (Mexican).....fan AY	—	3	—	Silent Call, The.....dr AY
—	3	—	Magdalena (German).....soc-dr A	—	—	—	Sins of Rachel Cade (See Rachel Cade)
—	3	—	Magic Boy (Japanese).....car-c AY	—	3	—	Sins of Youth (French).....dr A
—	3	—	Man Who Wouldn't Talk, The (British).....cri-dr A	—	1	6	Sniper's Ridge.....war-dr AY
—	1	2	Mania (British).....cri-mel A	5	7	4	Spartacus.....dr-c A
—	1	2	Mark of the Devil (Mexican).....mel A	—	3	1	Spessart Inn, The (German).....adv-c AY
1	6	9	Marriage-Go-Round.....com-c A	—	3	1	Splendor in the Grass.....dr-c A
—	1	2	Matter of Morals, A (Swedish)....dr A	—	1	2	Spring Affair.....com A
—	1	2	Mighty Crusaders, The (Italian).....mel-c AY	—	—	3	Stop, Look, and Laugh.....com AY
—	6	11	Millionairess, The (British).....dr-c A	—	2	1	Stop Me Before I Kill (British)....soc-dr A
—	1	2	Minotaur, The (Italian).....mel-c A	—	1	2	Summer and Smoke.....dr-c A
1	3	—	Misfits, The.....dr-c AY	6	10	—	Sundowners, The.....dr-c AY
—	1	3	Misty.....dr-c AY	1	2	2	Sweet Life, The (Italian).....dr A
—	4	4	Model for Murder (British).....cri-mel A	—	7	3	Sword of Sherwood Forest (British).....adv-c AY
—	—	3	Modigliani of Montparnasse (French).....biog A	—	3	3	Take a Giant Step.....dr A
—	3	—	Monster of Piedras Blancas, The.....mel AY	—	3	3	Terror of the Tongs, The (British).....mys-mel-c AY
—	3	—	More Deadly than the Male (British).....cri-mel A	—	8	1	Tess of the Storm Country.....mel-c AY
—	2	1	Morgan, the Pirate (Italian).....adv-c A	—	3	3	Three Blondes in His Life.....mys-mel A
—	—	3	Night of Love (French-Italian)....war-dr A	—	6	—	Tomboy and the Champ, The.....mel-c AY
—	3	—	Nikki, Wild Dog of the North.....mel-c AY	—	3	1	Tormented, The.....cri-dr AY
—	3	—	No Love for Johnny (British).....dr A	—	2	2	Touch of Flesh, The.....soc-dr A
1	9	4	North to Alaska.....com-c A	—	3	2	Trapp Family, The (German).....mus-biog-c AY
—	2	1	Okefenoke.....mel A	—	2	1	Truth, The (French).....dr A
—	3	—	Ole Rex.....dr-c AY	3	6	4	Tunes of Glory (British).....war-dr-c A
3	9	2	101 Dalmatians.....car-c AY	—	3	1	Two Faces of Dr. Jekyll, The (British).....dr-c A
4	5	4	One-eyed Jacks.....wes-c A	—	—	3	Unashamed, The.....dr A
—	2	5	Operation Bottleneck.....war-dr A	—	4	4	Underworld, U.S.A.....cri-mel A
—	4	2	Operation Eichman.....propaganda-dr A	—	3	3	Unfaithfuls, The (Italian).....dr A
—	4	3	Parrish.....dr-c A	—	6	2	Upstairs and Downstairs (British).....com-c A
—	4	6	Passport to China (British).....mys-dr-c AY	—	1	2	Violent Summer (Italian).....war-dr A
—	2	1	Picnic.....dr-c A	2	4	5	Virgin Spring, The (Swedish)....dr A
—	6	1	Please Turn Over (British).....dr A	—	9	5	Wackiest Ship in the Army, The.....war-com AY
—	3	—	Pleasure of His Company, The.....com-c AY	—	4	—	Watch Your Stern (British).....war-com AY
—	4	2	Police Dog Story, The.....cri-dr AY	—	5	6	White Warrior, The (Italian).....adv-c AY
—	1	4	Port of Desire (French).....dr A	—	3	—	Wild Rapture.....trav-doc AY
—	4	2	Portrait of a Mobster.....cri-mel A	—	3	1	Wings of Chance (Canadian)....dr-c AY
				—	7	3	Wizard of Bagdad, The.....adv-c AY
				—	6	6	Young One, The.....soc-dr A

The Consumers' Observation Post

(Continued from page 4)

THE CRAZE FOR FLUORIDATION as a magic technique for preventing tooth decay is extending far beyond the treatment of municipal water supplies and tooth paste. The Wall Street Journal reports that several manufacturers are considering a fluoride pill that can be put in orange juice, and anti-fluoridationists predict fluoride skin creams, shampoos, and soaps. The more difficult but effective method of preventing tooth decay by proper care and reduction of sweets in the diet is, of course, much too practical, simple, and routine a procedure to achieve publicity.

* * *

HOME GARDENERS WHO HAVE GREEN THUMBS should keep them out of their mouths. That advice comes from Mrs. Marjorie B. May, director of home safety of the Greater New York Safety Council. More than 100 cultivated plants contain poison, some of it death dealing. Children should always be kept from eating plants or seeds. Mrs. May points out that there is enough poison, for example, in a 10-cent pack of castor-bean seeds to kill 5 children. One tulip bulb contains poison enough to kill a man. The poison found in sweet peas causes a form of paralysis. Inkberries, which are harmful, are often mistaken for huckleberries, especially by children. Mrs. May suggests that parents should teach their children to identify wild plants and weeds as well as those grown in the home garden so that they will not be tempted to put something in their mouths that may cause illness or death. Don't ever take a chance on wild mushrooms; they very often turn out to be highly poisonous fungi.

* * *

THE NEW CERTIFIED PRODUCTS LIST sponsored by the American Hotel Association is a useful little pamphlet of some 30 pages, of great value to all executives of hotels and other institutions who buy considerable amounts of cleaning and maintenance items. The products which have met the specifications for minimum performance requirements are listed by the name of the product and manufacturer. In this year's list, all cleaning and maintenance products were retested, owing to the fact that the standards were upgraded and, in some cases, new and improved test methods were called for. Textile manufacturers and suppliers were required to submit a laboratory report in support of their affidavits. Products listed include various types of cleaners, polishes such as floor and furniture polishes, paints, and institutional textiles such as curtain and drapery fabrics, towels, blankets, and sheets. The booklet is available at 25 cents from the American Hotel Association, 221 W. 57 St., New York 19, N. Y.

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BOOKS PRINTED ON PRESENT-DAY PAPER have very poor durability. According to a study sponsored by the Council on Library Resources less than 10 percent of a representative sampling of books published in the last 50 years had any marked durability. In contrast, some books over 100 years old were found to be in good condition. Current research has been undertaken to produce acid-free paper on a large-scale economical basis, since studies have indicated that the acidity in paper due to alum and rosin used in the sizing has been an important factor in reducing its lasting quality.

* * *

BRUSH THE TEETH, NOT THE GUMS. The Journal of the American Medical Association points out that a common cause of recession of otherwise healthy gums is aggressive and improperly directed toothbrushing which wears away the gingivae or gums and exposes root surfaces.

* * *

ORANGE JUICE AND ORANGE PRODUCTS are available in a wide variety of forms, but right now the only way the consumer can be sure of what she is getting is to purchase oranges and squeeze them herself, or to buy the frozen juice concentrate and dilute it with water according to directions. There are as yet no definitions or "standards of identity." The Cooperative League of the USA testifying at recent hearings on orange juice standards pointed out that the term "pasteurized" as applied to orange juice does not indicate the same treatment as that given to milk. Juice is subjected to an instant flash of heat which tends to lessen sedimentation. Orange juice distributed by the milkman or in supermarkets that appears to be freshly squeezed actually may have been squeezed a week or two earlier and may contain a preservative. Sometimes reconstituted orange juice is added to pasteurized orange juice and the combination is sold as fresh. It appears also that consumers who think they are buying orange juice may actually be getting an orange juice product, with the word "product" in small type, and perhaps not legible.

* * *

FIRST-AID ADVICE FOR THE HOME MEDICINE CHEST in brief compact presentation is very useful. A little pocketbook-size 16-page manual provides a check list of home remedies with advice on how to treat common occurrences such as bites, blisters, bruises and cuts, as well as a list of "counterdoses" for common poisons, and a caution note on how long to keep certain household remedies on the shelf. It is a convenient concise presentation that may be obtained for 10 cents plus a stamped, self-addressed envelope sent to Wedgewood Press, 39 Lincoln Ave., Roslyn Heights, New York.

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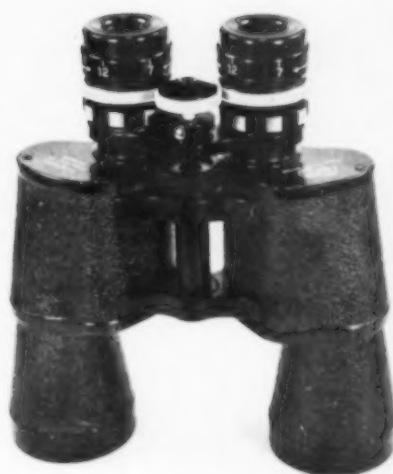
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A zoom binocular

It was, we suppose, inevitable that the sales appeal and popularity of the zoom lens on movie cameras would in due time attract the interest of designers of prism binoculars. A zoom lens is one on which the focal length (and thus the magnification) can be varied at will over a certain range. Ordinary binoculars are available in fixed powers of 6, 7, 8, 10, or sometimes higher; zoom binoculars offer the user a continuous progression of magnifications in one glass.

In general, binoculars of power greater than 8 times (8x) are difficult to hold steady enough with the unsupported hand, and are best used, therefore, with a tripod, or similar support, if possible. The diameter of the objective lens of a binocular needs to have the right relationship to the power for the glass to be satisfactory at certain light levels. The ratio of these two numbers (for example, on a 7x50 binocular, $50/7$ is 7.14) is the diameter of the "exit pupil" (the cylindrical beam of light emerging from the eyepiece toward the eye) in millimeters. Because the entrance pupil diameter of the eye at night or low light levels is about 7 millimeters, a 7x50 glass would give a brighter image than say a 7x35 which has an exit pupil diameter of 5 millimeters. In bright light the entrance pupil of the eye shrinks to around 3.5 millimeters, so under daylight conditions a 6x24 binocular would be satisfactorily bright. Thus, unless you intend to use a binocular mostly at night, it is quite unnecessary to purchase a glass with objective lenses as large as 50 millimeters.

The *Kalimar Variable Binocular* features a selection of powers from 7x to 12x, with an objective lens diameter of 50 millimeters. The binocular is about the size of a conventional center-focus 7x50 glass, and similar in construction. The right eyepiece can be adjusted; this arrangement permits one to adjust the focus for each eye. A separate geared knob engages the two variable eyepieces and sets the magnification desired. This geared knob can be disengaged for the usual binocular adjustments such as interocular distance and focusing for each eye. Once these adjustments are made for a particular user, they remain fixed for any magnification selected. At the 7x50 setting, the exit pupil diameter of 7.1 millimeters is excellent for night or dim-light use. At the 12x50



setting, the exit pupil diameter falls to 4.17 millimeters, which is rather small for use of the glass at low light levels. (In full daylight it would be satisfactory.) The focus of the binocular remained reasonably sharp while the lenses were zoomed from one extreme to the other, though a slight "touching-up" or fine-adjustment of focus was required to sharpen the definition to the best possible. The glasses are large and heavy, as 12x50 glasses necessarily would be, and hence tiring to hold in position for any extended length of time, without a support rod or tripod.

The *Kalimar Variable Binocular* was examined according to the procedure outlined in the article, "How to choose a pair of binoculars," which appeared in the February 1958 CONSUMER BULLETIN. The glasses were found to meet the requirements of a satisfactory binocular in most respects.

B. Intermediate

Kalimar Variable Binocular (Kalimar, Inc., 1909 S. Kingshighway, St. Louis 10) \$89.95, including tax and pigskin-covered case and strap. Made in Japan. 7x to 12x50 center focus prism binocular. Field of view at 1000 yd. at 7x, 314 ft.; at 1000 yd. at 12x, 277 ft. Workmanship was good, and operation of all moving parts was smooth. There are scales of graduations on the interocular distance adjustment, on the right eyepiece adjustment, and on the adjustment for magnification. The binocular is claimed to be corrosion resistant and mold resistant. There was excessive play in the eyepiece mountings. Even though this condition did not adversely affect performance, the looseness would allow for easy entrance of dust and moisture. If the eyepieces were snug-fitting, the *Kalimar Variable Binocular* would be *A. Recommended*. Weight without case, about 3 lb., which is about the same as the usual 7x50 or 12x50 glass.

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The new 1961 Volkswagen

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